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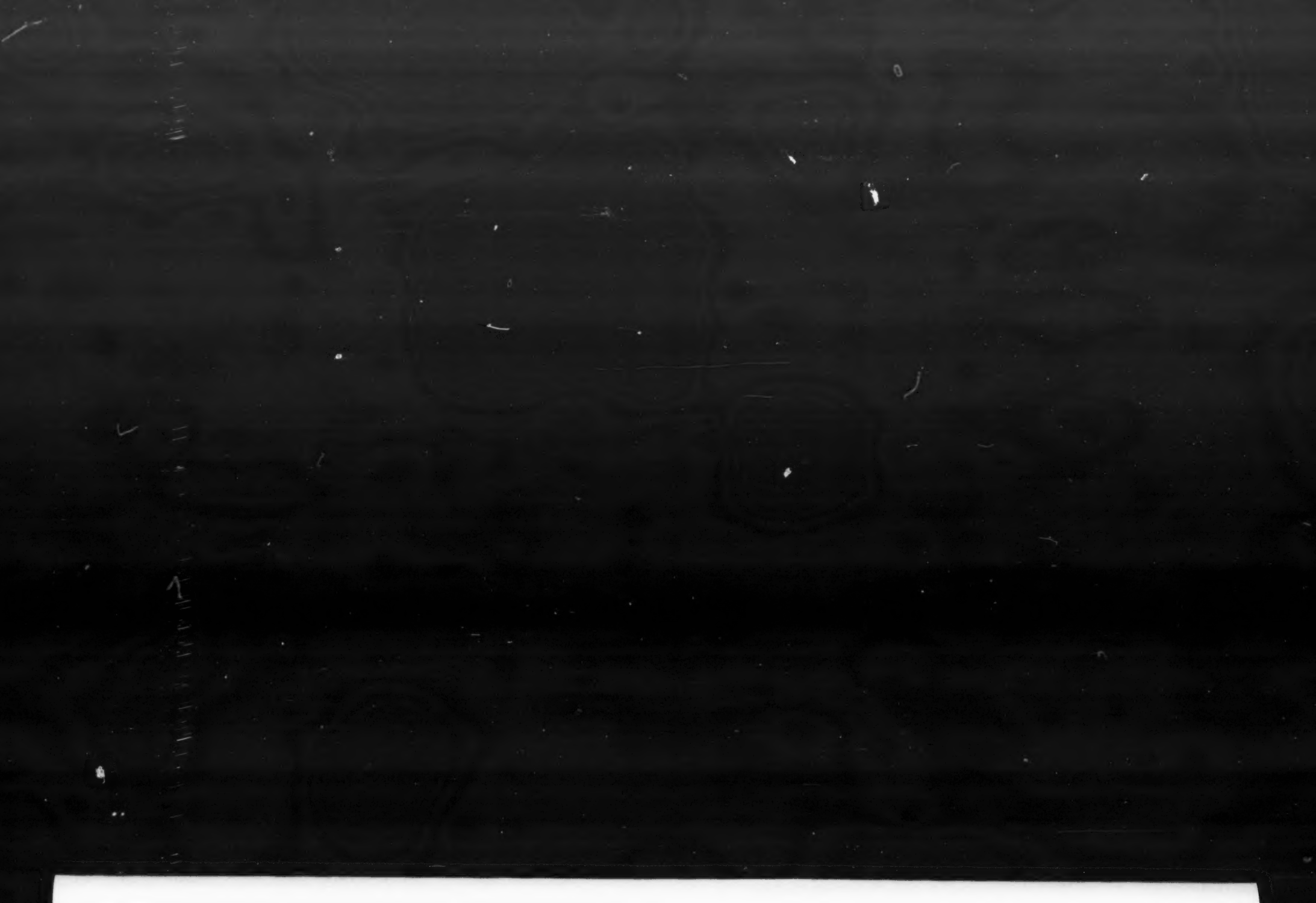

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Medicine Besieged*

WILLIAM LINDER, M.D.
Brooklyn, N. Y.

THERE is no need to tell of the astounding scientific progress which has been made in the past century, nor to point out that our daily living has in all its aspects been profoundly changed and improved by the practical application of these laboratory discoveries. Particularly in this country it is true that the practical benefits have accrued to the great mass of our population rather than to the selected few. While unquestionably medical science has kept equal pace with the rapid strides made by the other sciences, as witness the perfection of asepsis, the development of bacteriology, serology, immunology, the marvelous advances in preventive, diagnostic and therapeutic medicine, and the tremendous progress in the theory and technique of surgery, *the question before us is whether these discoveries in medicine are available to the mass of people to as great an extent as the discoveries in the other scientific fields.* No one can deny the vast benefits enjoyed by mankind as the result of immunization against smallpox, diphtheria and typhoid, the practical eradication of yellow fever, bubonic plague and several other diseases. Salvarsan and insulin and liver therapy are a blessing to the human race. Tens of thousands of lives are saved every year by timely diagnosis and painless operation since the advent of asepsis, anesthesia and the development of surgical technique. *But concomitant with the rapid progress and the natural development of specialization in medicine the cost of medical service has necessarily been increased.*

For the past fifteen years and especially during the last few years since the onset of the universal economic depression, our profession in this country has been the target of severe criticism. Few critics have impugned the progress, effort, or efficiency of the vast majority of physicians. We are arraigned on the charge of excessive cost to a large portion of the population, thereby withholding from the moderately salaried wage-earner the benefits of modern medicine.

The service that we have to offer is an absolutely essential one. In its very nature it should not be denied to those who can ill afford it. The physician, throughout the ages, has given it freely when it could not be purchased. We have always placed our profession above commercialism. The physician has affirmed his belief in the necessity and importance of medical charity and has practiced it without stint or complaint. A goodly portion of the people have always accepted and at present receive services without cost. It is estimated that 31 per cent of the population pays nothing for hospital services; and medical service in private practice is given freely without compensation by the physician.

The problem today is the cost of medical service to the middle-class patient whose income is limited (and now

* Inaugural address of the President of the Medical Society of the County of Kings, Brooklyn, Jan. 19, 1932.

considerably diminished) *and who does not wish to accept, and is not entitled to receive, charity.* Agitation for relief of this large percentage of the population to obtain satisfactory medical attention without resorting to charity has been very active in this country in recent years. Thousands of bills have been introduced into the various legislatures of our forty-eight states to solve the problem. Numerous methods have been suggested to cope with the situation and several states have already adopted some form of socialized medicine to relieve the moderately salaried man when injured or ill. A good example is the State Compensation Act in New York State.

The physician is and has always been an individualist. Traditionally he has regarded his calling as private between himself and his patient. Too frequently in the past our profession in this country and abroad has either ignored or failed to take action to prevent legislation drastically detrimental to the public and the profession. The great majority of physicians are so busy with practice or scientific endeavor that matters of paramount importance are left in the hands of a very limited number of representatives. They only become aware of legislation inimical to their interest when it is too late to protest.

Our profession realizes that the registered complaints against medical cost require investigation and is willing and anxious for an equitable readjustment. In 1927 a committee was organized at the A. M. A. convention to study the cost of medical services over a period of five years. The chairman of this committee is Ray Lyman Wilbur. Forty-four other members consisting of fifteen private physicians, eleven representatives of the public, five economists and the remainder drawn from the fields of public health, hospital management, dentistry, and nursing comprise the committee. The Carnegie, Rockefeller, Rosenwald and Milbank Foundations have considered this investigation of sufficient importance to foot the entire expense.

Various remedies have been suggested to alleviate the burden of the wage-earner in this country when ill. "State Medicine" is advocated as a rational solution of the problem that confronts us. While varying definitions have been given to "State Medicine," I shall quote the one adopted by the American Medical Association: "Any form of medical treatment provided, conducted, controlled, or subsidized by the Federal, State or Municipal Government, excepting such service as is provided by the army, navy or public health service and that which is necessary for the control of communicable diseases, the treatment of mental diseases, the treatment of the indigent sick and such other services as may be approved by and administered under the direction of or by a local medical society."

Socialized medicine is ably and succinctly defined by Harry H. Moore as "The Science and Art of preventing and curing disease through collective effort with the financial support of one or more social groups or governmental units."

The question of medical cost has been a vital problem in most civilized nations for many years. As early as 1883 we find national legislation to relieve the workman of his burden to care for himself when ill or injured by *compulsory* or *voluntary* insurance under government control. Prince Bismarck introduced *compulsory health insurance* in Germany in that year. The movement has steadily progressed until today almost every important European nation has either compulsory or voluntary health insurance.

Permit me to describe briefly some aspects of the operation of State Medicine in Germany and Great Britain.

The German system, the oldest system in existence, at first included industrial wage earners only. Subsequently, workers in commercial pursuits were brought under its provisions and domestic and agricultural workers were added. In 1911 legislation was passed making sickness insurance available to practically all workers. Approximately one-third of the population carries sickness insurance at present.

The salient features of the German system are:

(1) Employ*ee* pays two-thirds of the contribution, employ*er* pays one-third of contribution and most of the expense of administration. State pays one-half maternity benefit for uninsured wife of insured man.

(2) Approximate net cost per insured person in 1924 was $10.87 per annum.

(3) Funds are directly supervised by local insurance office, grouped under regional offices, all being under the supervision of the Federal Insurance office which is composed of public officials and elected representatives of employee and employers and supervised by the Ministry of Labor.

(4) The patient is entitled to complete medical service which includes drugs and specialist when necessary.

(5) The benefit lasts for twenty-six weeks or fifty-two weeks if the insured does not carry invalidity insurance.

(6) Patient is paid fifty per cent of the basic wage which may be increased to seventy-five per cent of basic wage when family responsibility warrants it.

(7) If hospital and home nursing are supplied, cash benefit is reduced.

(8) Dependents receive same benefit as the insured.

(9) There is an approved list of physicians who are paid either for the number of persons for whom they are responsible or for the actual number of patients treated.

When Germany adopted the compulsory sickness insurance the profession was not consulted. The control of this institution is to this day entirely in the hands of the government. About eighty per cent of the physicians in Germany now receive most of their income from insurance practice. It must be emphasized that the doctor has no voice in the control of the insurance practice in Germany. The insurance companies are chiefly interested in holding down the cost of medical services. To earn a meager livelihood the physician is compelled to see a great number of patients. It is not unusual for him to see fifty patients a day in his office and make twenty calls or more between and after office hours. No vivid imagination is needed to realize what services the doctor can possibly render and the patient receive when in addition to interviewing so great a number of patients he has the paper work attendant on insurance practice. The physical and mental exhaustion entailed precludes any possibility or desire for further study or scientific research or attendance at medical meetings or clinics. The personal relationship between physician and patient disappears. The comfort and confidence derived from the personal interest and contact, oftentimes of greater value than the actual prescription, surely so in that vast number of neuroses and other mental ailments, are lost. The necessity first to report to the employer, then to the Krankenkasse (Health Insurance Center), and finally to the physician who must make a written report of the ailment to the insurance company certainly destroys the confidential relationship that has existed between doctor and patient. Superfluous demand for medical attention in order to collect sick benefits and vacations has been a frequent abuse.

An estimate of the extent of malingering that may occur is apparent in a report issued in 1926 by the supervising commission of 778 "Krankenkassen." The commission thought it necessary to summon about 1,200,000 unemployed patients for control examinations. Of that number about 200,000 or 16 per cent did not appear but reported recovered; *over* 200,000 (18 per cent) appeared and declared that they had recovered and were ready to return to work; about 300,000, after examination, were pronounced well and able to resume work. Thus over 700,000, about 58 per cent of those called, were found ready to resume their occupations. One must, of course, bear in mind that only those suspected were called. Thus one may readily estimate the colossal amount of unnecessary labor that is thrown upon the physician, the wasteful abuse of insurance funds, as well as the deception that may be practiced by the insured in order to obtain benefits. It also has lowered the standard of the physician since the physician who is most liberal in issuing certificates of incapacity will have the most members of his health insurance society.

Great Britain, through the effort of Lloyd George, has had a compulsory health insurance since 1911. The law in England today makes it compulsory for all workers between the ages of 16 and 65 whose salaries do not exceed $1,200 a year, in the case of non-annual workers, to carry health insurance. Subsequently, additional legislation was enacted simplifying the administration, strengthening the financial basis, and increasing the benefits and contributions. Thirty-five per cent of the population in Great Britain carries health insurance.

The English plan operates as follows:

(1) The employ*ee*, if male, pays 9c a week, if female, 8c; the employ*er* pays 9c for each man and woman; the State pays one-seventh of the total cost of benefit for the men and one-fifth for the women.

(2) The approximate net cost per insured person in 1925 was $8.27 per annum.

(3) Funds are administered by mutual benefit societies, friendly societies, mutual insurance companies, and unions, all under the supervision of the Ministry of Health except that financial supervision is under the National Insurance Audit Department.

(4) Patient is entitled to services of a general practitioner including drugs and minor appliances. Additional benefits in the form of hospital care, home nursing, specialist service, and treatment for dependents may be granted *if the fund has a large surplus.*

(5) The benefit lasts for twenty-six weeks. There is no time limit for medical services.

(6) Cash benefits are fixed for men and women regardless of age or earnings. Men are paid $3.66 and women $2.92 per week. A maternity benefit of $19.42 for insured married women; $9.75 for uninsured wife of insured man, and $9.75 for insured unmarried women.

(7) The insurance group decides whether doctors' compensation is based on services performed or number of persons for whom he is responsible.

In contrast to the situation in Germany, the British Medical Association managed to obtain a voice in the original Health Insurance Act and has been consulted in subsequent legislation. As a result, the English panel physician is less unfortunate than his German brother physician. With a large list and constant arduous labor he can manage to make both ends meet.

The evils existing in the German system enumerated above are equally prevalent in the English panel system. A Committee organized to investigate the problem of malingering in 1929 revealed that more than 80 per cent of over 400,000 patients called for examination to verify the truth of their claims to sick benefit were found to be feigning illness.

A brief discussion of the arguments *for* and *against* State Medicine appears pertinent. The following criticisms of the present situation merit thoughtful consideration.

The present system of medical service has not benefited the greatest number. The prevention and cure of illness have not kept pace with the rapid advancement in medical science in the last fifty years. There have been insufficient personnel and funds for the various public health agencies. The private practitioner of medicine cannot possibly possess all the equipment and information necessary for the modern practice of medicine without the aid of consultants and laboratories, making proper medical care prohibitive to all but the well-to-do and those willing to accept charity. There is a shortage of good physicians in rural places and some small cities. There are insufficient hospitals, clinics, etc., to take proper care of all under the present system. The doctor under the present system is more interested in the fee than in the patient; he gives insufficient examinations; he unreasonably sends patients from one consultant to another. Fee splitting exists. The cost of private medical care and hospital care has enormously increased. Patients go to osteopaths, chiropractors, Christian Scientists, or other cultists, and to druggists for aid and make use of patent medicines because of the high cost of medical service. The physician as a rule is not fairly paid; only a very small percentage earns large incomes and the large majority earns a very moderate income. The training is long and expensive, equipping an office is costly, and overhead in practice is high.

The advocates of State Medicine maintain that the remedy for the evils enumerated above can only be accomplished by the control of medicine by the State. They point out, also, that the State has already assumed control of the health of the army and navy, communicable diseases, the insane, the blind, the deaf, and child welfare. Sewage disposal, water supply, and problems of sanitation are all controlled by the State. They argue that public health is such an important factor in public safety that the State has the right to exercise certain police powers which aim at the protection of national existence in order to safeguard public welfare. It is true that preventive medicine must be under the control of the State. It necessarily implies protection of one man from another, demands police power, and therefore must be in the hands of the government. But curative medicine is distinctly individual and only involves the individual.

The essence of the plan generally proposed is a medical service provided by every community that would include scientific diagnosis and treatment to all its members in need of medical care. The work of all the agencies in the community for public and private, preventive and curative medicine, would be correlated, thus making the benefits of modern medicine available to all people. There are several fallacies here. All patients who consult doctors do not need exhaustive examination to find out what is the matter with them. The majority of cases are uncomplicated and easily diagnosed by the general practitioner. Ninety per cent of diagnoses are made by the family physician without complex apparatus through carefully elicited clinical histories, physical examination, clinical acumen and experience. Then it is doubtful whether in State Medicine night or emergency calls would be handled as satisfactorily by the clinic as by the present family doctor. In addition, scientific medicine cannot solve all problems of disease. Much depends on the personality of the patient, which often can be learned only by long acquaintance.

As an example of the advantage taken of the diagnostic facilities and specialists at the disposal of Kran-

kenkasse physicians in Germany, we may quote some statistics. Kuttner, in speaking of 800 cases of inoperable cancer of the rectum, reports that 70 per cent of them had been under the care of the insurance doctors who not only failed to avail themselves of specialists' opinion or *x*-ray but did not take the trouble to do a rectal examination and usually prescribed some remedy for hemorrhoids.

In the enormous majority of cases of panel practice, treatment is given and continued for long periods, upon a diagnosis which is extremely inadequate and therefore not infrequently erroneous.

It is claimed that State Medicine will have certain other advantages for the patient. It will provide one examination in place of several; guide him promptly to the best treatment, provide the hospital, nursing and convalescent care needed regardless of his ability to pay; provide capital outside the medical profession to meet the necessary costs for those unable to pay. However, we must not lose sight of the disadvantages that the patient would suffer under State Medicine. He would lose the right as an individual to choose his own medical service, which would interfere with the intimate and personal relationship of doctor and patient which is so necessary for complete relief from the patient's ills.

The following advantages for the physician are postulated by those desiring State Medicine. They believe that it will reduce the cost of medical education; insure adequate financial compensation to the physician; raise the general standards of medical practice; remove competition with the unqualified practitioner by curtailing his activities; provide access to the needed equipment too expensive for the doctor to purchase himself; leave time to those specially qualified for more scientific and medical research. These claims appear utopian in view of the strong objections that can be raised. The average salary of a doctor in State or commission organization in the United States is now from $3,000 to $4,000 a year, while his education alone may have cost him from $10,000 to $15,000. State Medicine would lower the standards of practice. Patients would be moved along too fast, the obvious temptation being for the doctor to see as many as possible. If it is claimed that the doctor under the present system is more interested in the fee than in the patient, how unreasonable and illogical it is to assume that the panel doctor or the physician of the "Krankenkasse" will be more interested in the patient when he has an enormous number to treat each day in order to earn a mere subsistence and to whom the patient is usually a number who is more anxious for the sick benefit slip than his advice or treatment, than under the present system where the physician knows all the intimate facts of his life and is his friend, counsel and often confessor in addition to being his physician. How can the panel physician give more detailed examination when he knows that he must see so many more patients in his office in order to meet with the requirements of the panel.

Assuming the attitude of pleading the cause of the physician the advocates of State Medicine claim that the great majority of physicians are not fairly paid. Will the substitution of State Medicine for the present system remedy the condition? We shall be very liberal and including the incomes of all the highly paid specialists and consultants estimate the average income of the physician at $4,000 a year. Under the present system he is at least his own master and by diligence, perseverance and gaining the confidence and affection of his clientele he manages to earn a fair livelihood. He is obligated to no one and directs his efforts to the conscientious care of his patients, pursues his studies and his scientific inclinations, and contributes his services to the poor by attending dispensaries and clinics.

As an employee of the panel system or Krankenkasse his efforts must perforce be expended in covering the enormous work assigned to him. Between the clinical and clerical work he is a slave to his job, and instead of occupying the independent, well deserved, honored position he has held from time immemorial he becomes an employee of a bureaucratic system, obtaining and holding his position by his political proclivities rather than by his ability and diligence as a physician. As a reward for the sacrifice the maximum income he can possibly earn is the minimum he earns under the present system.

It is also claimed that the doctor would tend to get into a routine, resulting in loss of initiative and individuality, or he would depend on wire-pulling for promotion rather than on individual improvement. Nor would there be the same incentive to make new discoveries and carry on research, thus a lessening of medical progress. The doctor can only maintain the highest point of efficiency and service by preserving, to a large measure, his individualism.

The arguments for and against State Medicine that have just been outlined have been gleaned from numerous articles and books on the subject of medical economics during the past ten years. The bibliography has grown to astonishing proportions; the titles alone would comprise a volume. Particularly illuminating treatises have been written and compiled by Michael M. Davis under the title of "Paying Your Sickness Bills," and by Edith M. Phelps under the title of "The Socialization of Medicine." The reader has made free use of the arguments and statements of both of these authors and several other writers on the subject. The impression of the critical reader is that many of the articles written are the expression of a personal bias on the part of a writer emotionally activated, rather than the submission of any plan acceptable to the public, the physician, the economist, and the State.

Out of the confusion of arguments presented and refuted, emerge two challenging statements that we must face boldly; namely, the increased cost of medical care, and the fact that the practice of the art of medicine has not kept pace with the science of medicine.

It is true that the cost of medical services has greatly increased, but so has the cost of many other essential and non-essential commodities. In former years the cost of medical education, office equipment, and overhead was a mere fraction of the present cost. There are innumerable other commodities as well as luxuries used daily that have increased enormously in cost, still no great outcry is raised, and the State is not asked to step in and socialize the production and distribution of these other commodities.

The problem of the cost of medical care is really twofold, consisting, as it does, of the *ratio between the actual fee charged for medical services, and the ability of the patient to pay.* As members of the medical profession, I do not believe that we are as well qualified to discuss that second factor, which is dealt with in the European plans outlined previously under the heading of compensation, or sick benefits, as is the economist. Therefore, let us center our attention on the first factor, the actual cost of medical services. What can be done to lower the cost of medical service, and at the same time improve the *quality* of the services rendered, thus matching the progress of the practice of medicine to that of the scientific discoveries in that field?

The analogy between the Industrial Revolution with the defeat of the reactionary, stubborn, near-sighted craftsman and the present Medical Revolution is strik-

ing. In the light of this economic example, it would be well to consider one type of medical organization which has been advocated by various writers, namely, Group Practice. One of the greatest and most renowned medical organizations in this country, famous here and abroad as an institution of exceptional success in its cure of illness, and as a mecca of scientific research and education in nearly all of the branches of surgery and medicine, has been conducted on the principle of Group Practice for several years.

That Group Practice will be a panacea for all of the ills attributed to individual practice is certainly an untenable claim, but it is a suggestion to be considered, analyzed and experimented with. Group Practice under the supervision of the county medical societies may prove to be a powerful deterrent to the establishment of State Medicine.

The group includes the general practitioner and the various specialists. They possess all the necessary diagnostic instruments, laboratory facilities, and therapeutic agents, and a well-equipped operating room for minor surgery. They have arrangements for supplying twenty-four hour service of physicians for house calls. The housing under one roof and reduction of overhead of all the members of the group make possible considerable reduction in charge to the patient. The presence of the specialist on the premises is of value in reducing the travel and trouble patients must often endure in being chased all over town for opinions of specialists, and the ever present fear of the general practitioner of losing contact with his patient.

The general practitioner will benefit by intimate contact with his colleagues of the various specialties and doubtlessly tend to improve his medical knowledge; there will be greater opportunities for the private practitioner who often has exceptional abilities for some specialty but cannot attain his goal because of lack of connection and time. Having more time at his disposal the physician will have more opportunities for reading, study, and post-graduate courses. The access to laboratory facilities will allow him to practice his art as he was taught at medical school and in the hospital and to arrive at more correct diagnoses. As a group, competent secretaries can be employed, relieving the practitioner of the business part of the practice and allowing him more time and energy to devote to his patients. The financial arrangement of these organizations will be on a percentage basis of net income of the entire group, thus illness, time spent for further education, study, research, or in vacation will not diminish the income of the individual. The evil of fee splitting will be eliminated by this method of practice since all fees are paid into one treasury, and the organization will be supervised by the county medical society. The advantages gained by the general public will be considerable reduction of cost since the overhead is greatly diminished and the scale of prices can be better arranged to suit the means of the patient when all are working together. Since the group will be organized and supervised by the county or local medical society the specialists will be competent, ethical, well trained men worthy of the title and not self-appointed professors who are unscrupulous and incompetent. Unnecessary expense for consultation and hospitalization for observation will be eliminated. Should such groups prove of value to the community in reducing the cost of adequate medical treatment it is only reasonable to suppose that philanthropists will become interested and enable the management to further reduce the medical cost.

My intention has not been to propose an original solution to the criticisms to which the medical profession is being subjected. I have endeavored to emphasize the fact that the problem is a grave one, and worthy of our immediate and most serious attention.

The attitude of the majority of physicians in the United States of holding aloof or of passionately condemning State Medicine as an unmitigated evil to the public and to the profession, without submitting an adequate alternative, helps rather than hinders the adoption of State Medicine. It is obvious from the experience in other countries that the physician must, in his own interest, be a participant in the promulgation of any plan calculated to solve the problem of excessive medical cost. It is our duty and our task to study the problem calmly and rationally, suggest, offer and undertake remedial measures wherever possible and relentlessly oppose legislation initiated by uninformed politicians who may be motivated by selfish considerations. Concerted action must be taken through organized medicine, that is, through the county, state or national medical society. Never in the history of medicine was it more necessary than now that the entire profession cooperate. It is imperative that every physician be an active member of his country or state society so that the necessary reforms come about through an internal rather than external control.

It is my sincere hope that we will all interest ourselves in the problems of economic medicine so that we will be prepared to follow and support a great medical statesman who may, in the near future, be found among us to point the way. I firmly believe that our profession is the most satisfactory origin for those rules and standards of practice which will assure the public of the best in health guidance, prevention, and care in illness, and retain for the physician his efficient, dignified, and honorable position in the community.

889 St. Marks Avenue.

Arsenic in Chronic Myelogenous Leukemia

Ten cases of chronic myelogenous leukemia have been treated with the administration, by mouth, of solution of potassium arsenite. Nine cases showed striking improvement. One case, in the terminal stage of the disease, showed no improvement.

The total numbers of white blood cells have been reduced from several hundred thousand per cubic millimeter to numbers approximating normal.

The immature cells have markedly decreased both absolutely and relatively and in some cases have disappeared from the blood.

The anemia has in all cases been arrested, and in several cases the red blood cells and hemoglobin values have returned to approximately normal.

Simultaneous with the fall in the number of the leukocytes there has occurred in most of the cases a relative increase in the numbers of monocytes and basophilic granulocytes and an increase in the number of mucleated red corpuscles.

Blood platelets have remained in normal or moderately increased numbers throughout the treatment, even in the leukopenic phases.

The size of the spleen and of the liver has been reduced in each case, and in two instances to such a pronounced degree that these organs were no longer palpable.

Biopsy of the bone marrow suggested a return to a red marrow.

The basal metabolic rate has been reduced to values approximating the normal.

The patients have in most instances gained weight and have felt better than they had for many months.

When solution of potassium arsenite was omitted, the spleen and liver again became palpable and the leukocyte count rose within a few weeks, but the improvement could be maintained, at least for a few months, by the regular administration of small doses of the drug.

These uncompleted observations suggest that solution of potassium arsenite is of definite value in the palliative treatment of chronic myelogenous leukemia and perhaps can be used in conjunction with roentgen therapy for the best sort of palliative treatment.—Claude E. Forkner, M.D., T. F. McNair Scott, M.R.C.P., *J. A. M. A.*, July 4, 1931.

A Neuropsychiatric Contribution to a Suggested Outline of Examination of Children During the Neonatal, Infancy and Preschool Ages

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WHEN I was asked by one of the directors of the New York State Department of Health to formulate a neuropsychiatric section to the "Neonatal, Infancy and Pre-School Station Record," there came to mind a pertinent statement credited to M. P. Follet: "It is not a knowledge of his specialty which makes an expert of service to society, but his insight into the relation of his specialty to the whole."

In order to gain a smooth shifting of gears into the setting, needs and opportunities of the pediatric traveling clinic which subserves all ages of pre-school children, I recalled my experiences in the Hospital for Sick Children, Toronto, and the Harriet Lane Home for Invalid Children of The Johns Hopkins Hospital, Baltimore. On the basis of their examination procedures and the schematic blank form at present used b the New York State Department of Health, I have attempted to formulate the essential minimal facts to be gleaned in all such examinations with special attention to the neuropsychiatric aspects.

Before detailing the minimal general plan, I wish to register a protest against the "sign on the dotted line" type of history or examination outline. Superficially considered, such forms may seem to have advantages, such as being time saving, a "fine toothed comb" which includes items often overlooked, uniformity and brevity. On the other hand, I cannot but feel that such a method is fundamentally unsound from both an educational standpoint and actual justice to the facts, needs and opportunities met with in individual patients.

Instead of a "fine toothed comb," I feel that we need a rack on which are to be hung pertinent facts according to the individual patient under examination. Such a rack is the substance of the following schema; but it is only a scaffold, the superstructure and details of which must be determined by the individual case and the trained critical common sense of the examining physician.

Nobody would attempt to underrate the value of systematic methods and habits of examination. Yet common sense and experience tell us that we must not be slaves to routine. In other words, *we* must have the schema of examination rather than *it* having us.

Thorndike has axiomatically stated that "there is only one way in which we are all alike and that is that we are all different." We must give heed to the tremendous importance of the facts of individual differences—hereditary, developmental, anatomical, physiological, psychological, economical and sociological. Without cognizance of these biological facts which are facing and challenging us in every patient we cannot do justice to the paramount importance of the *individuality of the patient.* Stereotyped schemata not only tend to stifle the imagination and an experimental attitude but also militate against an intelligent ingraining of discriminatory habits and focusing and elaborating on the pertinent and specific needs of the individual case.

Thus, the following outline is offered merely as a rack to be woven into the habit patterns of systematic examinations, a schema to assist one's memory, give a perspective of essential topics, and then to give free sway to the examiner's judgment concerning those parts of the history on which he wishes to concentrate and elaborate according to the needs of the individual case at hand.

Those parts which are relatively unimportant may be briefly touched on or omitted entirely. Certain facts should be ascertained in all histories. These are indicated in the general plan which follows. In order to make this possible *blank sheets* for the schema headings should be used. The only restriction on space is that imposed by the "Front Sheet," which is the most important page of the case-record. It not only concisely contains the chief statistical data but also the "Main Facts" of the case. It should be a true epitomized statement of all essential data of the case history. A front sheet given the attention it deserves will not only save time in wading through several pages of history, but will also crystallize the problem in a most convenient manner.

FRONT SHEET OF CASE HISTORY
NAME OF HOSPITAL OR CLINIC

Name..... Case No.....
Date opened ..... History taken by.....
Source of Information.....Patient's Physician.....
Referred by..... Other Interested Societies.....
Legal Address.....(yrs.....Mos....). Age (yrs.....Mos...)
Birth Date ..... Birth Place..... Sex .....
Maiden Name of Mother.. Birthplace of Mother.. Occupation..
Name of Father ..... Birthplace of Father.. Occupation..
Other Children .....
With whom living..... Type of Home.....
Economic status of Home*..... Cultural Status of Home.....
Toxin-antitoxin.. Tuberculin... Vaccination... Wassermann...
Complaint Problem† .....
.....
DIAGNOSIS .....
.....
MAIN FACTS .....
.....
.....
Catamnetic data .....
.....

*Dependent, marginal, comfortable or affluent.
†What the patient or those bringing him would like help for (use informant's own words).

OUTLINE OF HISTORY

1. *Complaint Problem:* (A concise statement of what the patient or those who bring him would like help for, in informants' own words, summarized when necessary.)

II. *Present Illness: Onset:* Date and character (month, day, year). *Course:* Note especially as to change or appearance of new symptoms with dates. Better or worse at present?

Symptoms: Objective and when possible subjective symptoms.

III. *Personal History:* Birth: Weight, full term or premature, character of delivery (normal or instru-

mental), immediately after birth. Eye prophylaxis. Birth injury or malformation.

Health during infancy: fever, convulsions, condition of cord, eyes and skin.

*Feeding** Breast or artificial, duration and interval of artificial feeding, quantity, regularity, formula, reason for artificial formula, weaning, present diet before onset, and after onset of *present illness.* (Record feedings separately after Roman numerals I, II, III, etc., for each feeding change.) In older children inquire regarding candy, cake, ice cream, tea, coffee, idiosyncrasies and eating between meals.

Dentition: Age at onset, number of teeth, any abnormalities during teething.

Development: Age of eyes following light, turn head towards sound, eyes co-ordinated, first voluntary grasping of an object, holding head erect, recognizes familiar voices, objects recognized, localization of sense impressions, sitting erect, bearing weight on feet, standing on feet, first attempt at walking, walking freely, single words, sentences; control of urine and stools; evidences of defective attention and ability to grasp simple requirements of biological adaptation—feeding himself, dressing, avoidance of danger, play (best alone or with other children, younger or older than patient?).

HABITS: *Sleep*—regularity, goes to bed alone, time of retiring and arising, requirements of light, mother by bed? Sleeps alone? Hours—day; hours—night; windows open; mouth breathing.

Meals—regularity, difficulties. Daily milk, cod-liver oil, orange juice and green vegetables.

Habits of emotional control and disposition—Shy, sensitive, timid, fearful, sulking, tantrums, explosiveness, petulance, whining, cruelty, sex-curiosity.

Habits of exercise and play—time? fatigue?

Personality Make-up: Outgoing, "shut-in," friendly, good mixer, good leader, good loser, gets along well with others, happy, moody, special aptitudes and interests, respects authority, asocial or delinquent tendencies.

Neuropathic traits: Fear of dark or night terrors, sleep walking, sleep talking, or grinding of teeth, bedwetting, temper tantrums, fussiness over food, reactions of vomiting or gagging, food eczema, hives, hay fever, asthma, mucous colitis.

School facts: Age on entering—nursery school or kindergarten (public or private); years in each grade; mental attitude in classroom; playground report; special aptitudes and interests.

Disease: Make positive statements and give dates as to diphtheria, scarlet fever, measles, pertussis, varicella, rheumatism, typhoid, tonsillitis, asthma. Also give date of any other illness and inquire as to cardio-respiratory, gastro-intestinal and genito-urinary symptoms.

IV. FAMILY HISTORY: *Father:* Age, condition of health or date of death and cause. *Mother:* Age, condition of health or date of death and cause.

Pregnancies: 1. Boys: age, health or age at death and cause. 2. Girls: age, health or age at death and cause. 3. Miscarriages and stillbirths; number, date and cause.

Social and economic conditions: Record any information bearing on case.

Inquire into conditions of former occupants of house.

Facts of Inheritance: nervous breakdowns, with or without hospitalization, including rest cures, alcoholism, epilepsy, mental deficiency, eccentricities and geniuses.

Facts of Parental Management: 1. Relationship to father and mother. 2. Interparental relationship with particular reference to policies of child management. 3. Home standards with respect to obedience, amusements, religious activities, respect for civic institutions.

OUTLINE OF PHYSICAL EXAMINATION

Closely observe the patient before he is disturbed. Much valuable information can be obtained while the child is quiet. Although the examination should be recorded in a routine manner, yet the order of making it may be varied. The examinations least disturbing to the child should be made first. For example, the abdomen or lungs may be examined, the reflexes tested, etc., without waking the child, whereas the examination of the ears almost invariably excites the child to such an extent that a satisfactory examination of the throat or lungs becomes impossible. For this reason, examination of the ears, throat and special examinations are always made last.

Temperature:... Respiration... Pulse... Weight... Ideal weight...

Measurements: Length, Circumference of head, Circumference of chest (nipple), Circumference of abdomen (umbilicus).

General Appearance: Nutrition, development, desiccation, expression, gait and posture, intelligence, consciousness, restlessness, convulsions, delirium, apathy, stupor, coma, speech, etc.

Skin: Texture, color, cyanosis, icterus pigmentation, moisture, edema, emphysema, ecchymosis, hemorrhage, petechiae, insect bites, eruptions, scars, desquamation, collateral venous or capillary circulation.

Glands: Palpable, enlarged, fluctuation, etc. Epitrochlears.

Head: Position, shape, symmetry, fontanelles, sutures, craniotabes, Chvostek's sign, Macewen's sign, etc.

Eyes: Position, motion, ptosis, strabismus, nystagmus, equality and size of pupils, reaction of pupils to light and accommodation and consensually, conjunctivae and sclerae. Vision. Fundi.

Ears: Form, secretion or discharge, mastoid tenderness or edema or redness, hearing. Otoscopic—color, bulging, landmarks, light reflex, perforation, discharge.

Nose: Patency of nares, secretion or discharge, septum, obstruction.

Lips: Color, moisture, eruptions, fissures, rhagades, herpes.

Teeth and Gums: Number, caries, pyorrhoea, arrangement, occlusion. Gums swollen, hemorrhagic, salivation.

Tongue: Moisture, fissures, ulcerations, color, "coating," etc.

Buccal surfaces: Eruptions, ulcerations.

Palate: Arch, breadth, perforation.

Pharynx: Color, ulceration, exudates, tonsils, adenoids.

Neck: Superficial lymph glands, thyroid enlargement, thrills, murmurs, venous hums, abnormal pulsations, rigidity, retraction.

Larynx: Cry, cough, voice, hoarseness, stridor.

Vertebrae: Curvature, tenderness, limitation of motion, opisthotonus.

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* The following history plan is suggested in *nutritional disturbances:* I. Infants—(1) Onset. (2) Feeding—formula, interval, quantity; relation of weight, vomiting and stools to change of formula; reasons for change of formula; if artificially feed, reason for weaning; if other children,—were they breast fed? (3) *Vomiting*—time, in relation to food; frequency, amount, character. (4) *Stools*—number in 24 hours, consistency, form, color, odor. (5) *Crying*—before feeding, after feeding. (6) *Appetite*—well taken, poorly taken.

II. OLDER CHILDREN—make an exact record of the kind of food and amount given, and the times of feeding each 24 hours. If the child is of a neurotic type, record in addition to the feeding history, the daily regime, time of rising, going to bed, time spent in exercise and school, habit patterns, emotional factors, substitutive and complex-determined reactions, inter-parental and parental-child relationships, disharmonies, etc. Each case must be carefully analyzed for the *motives* and various factors underlying the "nutritional" disturbance. Such cases present problems to be *interpreted* and causes to be removed. Merely symptomatic treatment encourages a vicious circle of symptoms and fixation of unhealthy reaction pattern tendencies to life situations.

Chest: Contour, symmetry of form or function, variation of breadth or depth; shape, funnel, rachitic with rosary and costal groove, bulging or retraction of intercostal spaces, abnormal pulsations or thrills, position of scapulae.

Lungs: Palpation, fremitus, percussion, auscultation with comparison of both sides. *Respiration*—rate, depth, type.

HEART: *Inspection:* Apex, point of maximum impulse, location and character of abnormal pulsation.

Palpation: Site and character of apex beat, site and time of abnormal pulsation.

Percussion: Borders of heart, change on altered position.

Auscultation: Character of first and second sound or their component parts at the several valvular areas; murmurs, place, time and maximum intensity, transmission and character of murmurs, effects of change of positions.

Pulse: Size, force, volume, frequency, rhythm, tension, vessel wall, character, symmetry on both sides.

Abdomen: Form, tone, visible movements, palpation, percussion, size, muscular rigidity or spasm, tenderness, fluctuation, masses—size, consistency, mobility, relation to respiration and to other organs; umbilicus, hernia.

Liver: Upper and lower limits, character of surface and edge—smooth, nodular, tender, pulsating.

Spleen: Palpation, edge, consistency, character of surface, tenderness.

Stomach: Visible movements, tenderness, tumors, especially in pyloric region.

Kidneys: Palpation, enlargements, surface, tenderness. *Bladder*—palpation, percussion, hypertrophy, distension.

Genitalia: Conformation male or female, abnormalities, secretions and discharges, descended testes, circumcision, phimosis, etc.

Posture and Extremities: Size, tenderness, musculature, atrophy, paralysis, hypertrophy, deformities, abnormalities—flat feet, bow legs, enlarged epiphyses, etc.. *Joints*—movements, size, tenderness, inflammation.

NEUROLOGICAL: *Cranial nerves*—II negative, III, IV and VI negative, V negative, VII negative, VIII (Vestibular and Cochlear) negative, IX, X, XI and XII negative. Tache cérébrale. Protrusion of tongue.

Sensory System: Touch, temperature and pain; masseter tenderness; tendon and joint sensation; vibratory sense; stereognostic sense. Palpate and percuss muscles, nerves, spine and long bones for tenderness.

Motor System: Paresis, paralysis, power, tone, atrophy, hypertrophy, spasticity, rigidity, twitchings, fibrillation, co-ordination, ataxia, gait, tremors, choreiform or athetoid movements, myoclonus. Test writing. Articulation. Note any aphasia, dysarthria, apraxia or other cerebral phenomena.

Reflexes: Superficial and deep, clonus, Babinski, Hoffman, Kernig, Romberg, abdominals, cremasteric reflex in males. Any sphincter disturbance.

Sympathetic-Parasympathetic system: Look for exophthalmos, enophthalmos, widening or contraction of pupils and palpebral fissures. Look for disturbances of sweating, sebaceous secretion, vasomotor function and visceral innervation. *Trophic lesions* such as decubitus ulcers, changes in skin, Charcot joints, etc. Note any evidences of endocrine abnormalities.

MENTAL: *Intelligence Tests* should be done when history and examination suggest mental retardation or defect. Standardized tests such as the Gesell Tests* may be used from age four months to five years, and the Binet-Simon Tests† from age three years upwards.

Personality estimate of child as revealed throughout history examination and from questioning about his specific difficulties.

Summary: Briefly summarize, (1) the most essential facts in the history and, (2) the positive physical and mental findings, grouping them wherever possible so as to indicate their significance.

Impression: The tentative diagnosis and other diagnoses to be considered.

Work-sheet: Further examinations to be required and memoranda of gaps to be investigated. Always have blood Wassermann test made. If indicated, have spinal puncture, ophthalmological examination, hearing tests, protein sensitivity tests, *x*-rays, tuberculin and other special examinations.

Treatment:

Progress Notes:

In conclusion, the author wishes to emphasize the tremendous importance of examining the *whole* child, the mental (intellectual and emotional) and social life as well as the physical. The more progressive wing of pediatricians are eager to embrace psychiatric sharing of responsibilities and opportunities in gaining a better understanding and treatment of varying degrees of ill health and maladjustment found in infants and children. The neuropsychiatrist feels he can be of considerable assistance to the pediatrician in the matter of interpretation and readjustment of various types of behavior and personality difficulties, faulty habit training, intellectual and emotional deviations from the norm, and especially unwholesome inter-parental and parental-child relationships. It is not the intention of the psychiatrist to divorce patients from the pediatrist, but rather to help him gain a fuller understanding and more effective treatment of such cases which essentially and rightfully are his obligation. Surely there is room for a larger measure of cooperation and sharing of opportunities and responsibilities in this most promising aspect of pediatrics.

The Diagnosis of Coronary Occlusion

Substernal or epigastric pain which arises in the heart or aorta is related to effort, and radiates into the shoulders and arms, in contradistinction to pain referred to the same sites but which originates in other thoracic or in alimentary viscera. Pain due to coronary occlusion is usually more severe, of longer duration, and more difficult to relieve than cardiac pain not associated with obliteration of a vessel; the so-called status anginosus is characteristic of occlusion. The subsequent appearance of fever, leucocytosis, pericardial friction rub and signs of myocardial insufficiency is evidence of cardiac infarction, secondary to occlusion.

When the onset of auricular fibrillation is accompanied by pain, the clinical picture may suggest coronary occlusion.

Certain other vascular accidents, rupture of the aorta, pulmonary thrombosis or embolism, or occlusion of certain abdominal vessels may simulate coronary occlusion.

The differentiation of coronary occlusion from one of those lesions comprised by the term "acute abdomen" may at times be necessary. The former is characterized by radiation of pain to the arms, absence of abdominal rigidity, and signs of cardiac failure; the latter group, by early rigidity and signs of peritoneal involvement.

The electrocardiogram may be of great help in differentiating pain associated with occlusion of a vessel from other types of cardiac pain of less moment. It may also be of value in the differentiation of cardiac from abdominal lesions by indicating myocardial disease.

Coronary occlusion frequently occurs without pain, but with severe dyspnea as the dominant symptom. The true nature of these cases should be recognized; they should not be dismissed with a diagnosis of "asthma."—Alfred M. Wedd, M.D., *N. Y. State J. M.*, Jan. 1, 1932.

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* Gesell, Arnold. *The Mental Growth of the Pre-School Child*, (Macmillan, New York, 1926).

† Terman, L. M. (1) *Condensed Guide for the Stanford Revision of the Binet-Simon Intelligence Tests.* (Houghton Mifflin, New York, 1920). (2) *The Measurement of Intelligence.* (Houghton Mifflin, New York, 1916.)

Anorexia in Children*

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THE complaint of loss of appetite, or unwillingness to eat, not only constitutes the basis of the chief complaint in about 30% of a pediatrician's office practice, but it also forms a chief secondary complaint, that is, when a mother brings the child to the office because it is suffering from bronchial asthma, is subject to colds, suffers from anemia, complains of so-called growing pains, wets the bed, or has large cervical glands, and when asked about the child's appetite, the answer is uniformly the same—"He does not eat well at all," or "He eats only when he is entertained," or "Every meal is a scene." I am, of course, not referring to the temporary anorexia preceding or accompanying an acute illness, nor am I referring to the anorexia or underweight resulting from some definite chronic ailment. It is rather the functional type of anorexia to which I am alluding. The child is usually well nourished and physically normal. A blood count reveals a fairly normal hemoglobin and red blood cell count. Only occasionally does one find the child to be anemic and underweight—and if the anemia is primary in the sequence of anorexia and underweight, then the anorexia responds readily to the treatment of the primary cause. Anorexia is not a disease entity; it is merely a symptom, usually an objective one; very rarely is it subjective. I mean by that, that as a rule the mother complains about it and it is most uncommon for the child to call anyone's attention to that.

Schultz[1] says that chronic anorexia is seldom, if ever, encountered in the child with rugged physique, that is, in a child manifesting all the external and internal signs of normal functional and physical makeup. He says that anorexia usually occurs in the asthenic or hyposthenic type and that the concomitant anorexia can be brought about by chronic disease or the prolonged action of persistent concealed or manifest foci of infection. While I agree with him that a chronic disease or a persistent focus of infection will ultimately undermine the child's appetite, I cannot concede that functional anorexia usually occurs in the asthenic child. Most physicians, especially pediatricians, who see many children in their daily practice, will agree with me that a large majority of the children with chronic anorexia are normal in the physical makeup and do not conform to any special type of asthenia or hyposthenia.

A certain number of authors have described definite findings even in chronic functional anorexia. Bartlett[2] found associated with marked loss of appetite, septic tonsils and adenoids, acute infectious diseases, tuberculosis, pyelitis, and dental caries, in the order mentioned; but he describes the anorexia present in these cases as the organic rather than the functional form. The experimental work of Sauer[3] and his associates, of Hurwitz[4], and of others would indicate that gastric atony, resulting in delayed emptying time of the stomach, and diminished secretory function are outstanding dysfunctions in the child suffering from primary chronic anorexia. Kerley[5] frequently found appreciable amounts of food in the stomach four, five, or more hours after the completion of the previous feeding. It seems—he said—that delayed stomach emptying might explain persistently poor appetite in some of the obstinate cases. In many others of his cases, Kerley[5] found a great deal of mucus in the stomach and he attributes that to a chronic mucous gastritis resulting from a partial pylorospasm, retention of food and irritation. He treats these cases by lavage and atropine sulphate. He also says that gastric analysis, which had been done in many of his patients, always shows a high total hyperacidity. One can, therefore, appreciate the worthlessness of hydrochloric acid as a tonic for the appetite in a great many of these cases, for there is already a hyperacidity. On the contrary, Kerley[5] suggests before each feeding a powder containing magnesium carbonate, one grain; sodium bicarbonate and bismuth subcarbonate, each two grains, in order to overcome the abnormally high acidity.

Probably the most prominent cause of loss of appetite in an otherwise well child is the attempt to make the child eat a definite amount of food at each meal time, day in and day out. We know that every adult does not eat the same amount day after day. Our appetite is influenced by a great many external and internal conditions, some of major and others of minor importance. The child in its little world or sphere of activities is similarly influenced in its relation to the intake of food by a great many factors and incidents, and it sometimes takes only a small cause to bring about a large effect. Failure to understand the psychology of the child starts a vicious cycle in the child's life and has the same effect on the peaceful and orderly household as throwing a monkey wrench into a well running engine.

It will perhaps not be amiss at this time to say a few words concerning hunger. There are three main theories of hunger:—1. That the origin is peripheral and due to stimulation of sensory nerves carrying impulses to the brain. The stimulus may arise in the wall of the stomach itself, being instigated mechanically, by inherent contractions or possibly other means, or chemically by the stimulation of afferent nerves due to certain changes in the blood. 2. That hunger is central in origin. There is a hunger center in the brain which initiates the sensation, as it is known that hunger is felt when the stomach is excised or when the stomach is partly filled, and that it is satisfied by rectal feeding. 3. Hunger has been considered a general sensation produced directly by stimulation of the hunger center by alterations in the blood, and indirectly by nerve impulses from the various organs of the body.

That the low blood sugar by itself is not a cause of hunger is demonstrated by the fact that in severe hunger, a few bites or mouthfuls will still the hunger, and yet only a few moments have elapsed, that is, not sufficient time to influence the blood sugar. Furthermore, Cannon has demonstrated that hunger is dependent upon vigorous rhythmic contractions

* Read before the Southeast Branch of the Philadelphia County Medical Society.

of the stomach. These occur with regular periodicity after the stomach has been empty of food for a given period of time. The hunger sensation is produced chiefly by these contractions. Nevertheless, we can have hunger even without gastric contractions. Individuals who have had a subtotal gastrectomy still experience the sensation of hunger. We see, therefore, that hunger is a highly complicated mechanism dependent upon more than one factor.

Now hunger is a natural instinct. As I often tell mothers, animals kill one another for food. The newborn infant without any training or teaching grasps the nipple and attempts to satisfy the instinct of hunger. It is, therefore, impossible to conceive that a child, who is otherwise well, should demonstrate a chronic or prolonged and persistent failure to get hungry. The fault must lie not with the child; it is perhaps more in the imagination of the mind of the mother.

In many cases of so-called functional anorexia the trouble really is with the mother rather than the child. The women who bring children with anorexia to the office usually show all the evidence of lack of control over their children. They show their concern in front of the child and dilate upon the child's bad eating habits to a very great extent. The child usually listens attentively to the recital of his shortcomings and often seems to be quite proud of them. As Cameron[6] says, "He has a reputation to live up to." It is my practice never to take a medical history in front of the child, especially where anorexia or underweight is the chief complaint. The long recital in the presence of the child as to what he will and what he will not eat, the various measures that have already been undertaken to try to relieve the situation, the failures of the attempts, the anxiety of the mother—all of these make the little fellow or girl, who is already occupying the center of the stage, still more proud, egotistical and stubborn. Furthermore, I usually inquire carefully into the weight, height, and stature of the other immediate members of the family, especially of the father and of the mother before she was married. There is no doubt that the height and weight tables commonly used have done more harm than good. All children are not cast in the same mold; there are short and stocky, long and thin, heavy and light, active and inactive, phlegmatic and asthenic, dynamic and inert ones. Furthermore, race bears a definite relationship to height and weight. A Jewish mother who brings her child to the office because he is underweight in comparison to the next door Northern European neighbor's child is not considering the fact that her husband is only five feet and six inches, while the father of the next door child is six feet and five inches; or the same may be true in regard to the mothers of the children. Then again the hereditary element must not be forgotten. How can we expect a small mother and a small father to raise a big child unless smallness of the parents happens to be a recessive rather than a dominant character and then it is not in our power to change it; the size has already been determined in the germplasm and we can modify the ultimate growth of that child but slightly. Height and weight tables are very useful, but must be interpreted for the individual child with regard for his hereditary tendency, as to type and size, by a physician. The constitution is also an important factor. Different constitutions make for different types of body irrespective of how well a child is fed. We have the child with short trunk and short extremities; short trunk and long extremities; long trunk and short extremities; and long trunk and long extremities. We need a more rational standard of health than mere gain in weight. The average mother —and often even the physician—thinks that a baby that makes a big gain in weight is the healthy baby. As a matter of fact, we know that rapid growth makes the child susceptible to rickets and the fat child is liable to get into all sorts of trouble. Then, nearly every mother has in her mind's eye the ideal of a big child. Great stature has come to be thought of as synonymous with health, resistance to disease and many other less tangible, but none the less valuable characteristics. In reality, size and state of health are two separate and distinct elements of life. We must not forget the group of cases in which the anorexia is imaginary, that is, maternal. The mother imagines that the child should at the age of two eat two times as much as at one, etc., whereas as a matter of fact caloric requirement decreases with age, and we cannot expect a two-year old child to take three good meals a day in addition to the quart of milk which he took by the end of the first year.

A child usually eats well until dentition sets in; as a result of this there is often a decreased appetite —and it is during that period that most seeds for future trouble are sown and it is during that period that the wheels of the vicious cycle are set into motion. Particularly infants who have taken large quantities of food in early infancy may experience what may almost be called a physiologic loss of appetite. They are filled, satiated, overweight, have plenty of reserve, and are happy and contented with the lessened food intake. But the mother or nurse wants them to continue taking more and more food each month in comparison to the preceding month, which, of course, is absurd, for the caloric requirement decreases with the growth of the child. The child therefore refuses to eat and it is here where the spark of the trouble is ignited.

In coaxing the child to eat, the whole household is upset. At first the child takes its food by eating for the whole family. It takes a mouthful for the father, mother, grandmother, nurse, and when all relatives have been exhausted, a spoonful of food is taken even for the much abused and overworked iceman. When this stunt fails, entertainment sets in. First come toys, then come pots and pans, then comes the standing on the head stunt, and finally even first class entertainment does not produce the magic effect of inducing this all important little person to open his mouth, or when that has been accomplished, to make him swallow the mouthful. What is to be done then?

First of all we must practice prevention. We must explain and teach the mothers early about the natural negativistic attitude of children, about their desire to exercise power in order to gain certain factors. Mohr[7], the mental hygienist, is of the opinion that most emotional nutritional situations of later child life could be prevented by an early, properly controlled dietetic regimen, and the ordinary habit training of an infant.

Before the actual treatment of these cases is started, it is needless to say that a complete physical examination of the child should be carried out. Careful examination of the child must be made for evidence of focal infection, anemia, chronic pyelitis, tuberculosis, syphilis, nasal obstruction, and dental caries, to mention only a few of the most important causes, which, if found, really place the child in the group of organic anorexia.

Anorexia cannot be overcome by dietetic regimen alone and close attention must be paid to details of management and environment. First, attention is directed to the state of bowel function. Constipation undoubtedly is an important cause of anorexia. Next, attention should be directed to the diet. Milk must be displaced from its position of prime importance. If the child cares, it may take milk at the end of the meal, but we must not expect him or her to take the almost proverbial quart a day. Milk, if taken over a long period of time, becomes flat in taste, and I allow mothers to flavor it and to change the flavor frequently. Needless to say, the bottle habit after the first sixteen to eighteen months, and certainly after the twenty-fourth month, has a very deleterious influence on the appetite. I insist that nothing be eaten between meals, not even the three o'clock glass of milk, and an interval of five hours is maintained. Of course, all sweets and pastries are forbidden. Children tire of the same foods just like adults; a child that is given the same cereal every morning and evening will eventually refuse it. I instruct the mothers to bring sufficient variety, taste, and color into the child's diet. Many mothers feel as long as the child gets the proper kind of food it should eat it, but taste and variety are thereby often neglected. The food should also be served attractively; for instance, a child that refuses cereal will often take it if the mother slices a couple of pieces of peach, banana, pear, or other fruit into it.

Many children, especially those of school age, have an especially poor appetite for breakfast, because of the short period before going to school. This is a type of anorexia that occurs under stress of mental excitement. The remedy is early rising. These school children are often too tired to eat because of too much play; an afternoon rest period for one-half to one hour before the evening meal often achieves success. Then there is the type of child that is too inert and does not burn up enough fuel to require much food; such a child should be stimulated to more exercise. Many a young child of two and three years will eat better if it is allowed to walk rather than being wheeled about in a carriage by the mother.

Forced feeding, to my mind, is a total failure, except perhaps in marasmic children. I am opposed to starvation as a method of treatment of anorexia. The usual story is that the first day or two after the starvation period the child eats well, but it soon lapses back into its evil habit of not eating. Change of milieu undoubtedly has a good temporary effect. It is common experience that most children eat better in somebody else's home. This is due to two important causes, first, the child is removed from the influence of the mother or nurse, and second, the food is cooked differently and tastes differently.

Where anemia is present, I prescribe very large doses of reduced iron by mouth. I give as many as five grains three times a day, with very beneficial and no deleterious effects. In older children, a high protein diet, especially liver, kidney, and beefsteak, may sometimes improve the general appetite. I do not prescribe cod-liver oil as a tonic—unless rickets is present, and then one should better use viosterol—for cod-liver oil is likely to take the appetite away rather than to improve it.

Cushing and Carlson have carefully studied the pharmacological actions of the bitters. The latter says: "We conclude that in therapeutic quantities the bitters, acting in the stomach alone, have no effect on the gastric tonicity, or the gastric hunger contractions, or on the parallel sensation of hunger. In greater than therapeutic doses the bitters inhibit the hunger contractions and abolish the hunger sensations, probably by stimulation of the nerve endings in the gastric mucosa. Acting in the mouth alone, the bitters, even in traces, inhibit the hunger contractions and abolish the hunger sensations in direct proportion to the intensity and duration of the stimulation of hunger contractions and hunger sensations." The conclusion is that the beneficial effects from the use of bitters are largely or entirely psychic. The bitters therefore should not be used in children, for if their action is psychic, then they certainly produce the opposite effect. The bitter taste provokes the child, makes him cry, gag, and vomit, and he looks not with pleasure but with fear at the bitter tonic.

Mendel[8] has stated that the earliest symptom of a lack of Vitamin B seems to be a poor appetite. Plimmer[9] states that one of the chief effects of a partial deficiency in Vitamin B is intestinal atony and stasis. Sometimes constipation and therefore anorexia is caused by large abdomen due to ptosis. We add vitamin C and D early in life; it might not be amiss to add vitamin B also, for both human and cow's milk, especially the latter, are notoriously poor in vitamin B. An excellent source of vitamin B is fresh brewer's yeast.

In the cases of some children with anorexia a little indifference or a small measure of neglect—paradoxical as it may seem—is the only method of relieving the situation. Furthermore, leaving the table just a little hungry is a very good thing for the appetite rather than to be overfilled. In the former state, they are voraciously hungry when the next meal time comes around and will eat anything placed in front of them.

Finally, as Clifford Sweet[10] has so aptly stated, "It is the parent's duty to provide suitable food, and having placed the child in contact with that food, her part is played." In other words, the child's relationship to his food is represented by a straight line: child to food, and not by a triangle: child, parent; food. A mother's duties in regard to her child and his food are:—1. That she provide that child with regular meals. 2. That the meals be of good quality. 3. That he shall remain at the table a definite length of time, for example, thirty minutes. There is a vast difference between saying, "You remain there," and "You must eat." 4. And, most important of all, food must be served without one word being said about food—all these to the end that meal time becomes and remains a pleasant social family occasion."

In conclusion I again wish to quote Clifford Sweet[10]. "There is no greater joy in life than to have urgent, earnest desire satisfied as the result of one's own efforts. Self-satisfaction in one form or another is the true reward of all endeavor.

References

1. Schultz, F. W.: The Problem of Chronic Anorexia in Childhood, *J.A.M.A.*, Vol. 94, No. 2, P. 74, January 11.
2. Bartlett, W. M.: Analysis of Anorexia, *Am. J. Dis. Child.*, 25:26, January, 1928.
3. Sauer, L. W.; Minsk, L. D., and Alexander, W. G., Gastric Findings in Children with Anorexia, *J.A.M.A.*, 70:184, July 15, 1922.
4. Hurwitz, Cited by H. Bruning, Ueber Mageninhaltuntersuchungen bei Kindern, *Deut. Med. Woch.*, 46:883, 1920.
5. Kerley, C. G.: Poor Appetite in Children, *Southern Mdical Journal*, 22:509, 1929.
6. Cameron, H. C.: The Nervous Child, London, 1923.
7. Mohr, George J.: Emotional Factors in Nutrition Work with Children, *Mental Hyg.* 12:336, April, 1928.
8. Mendel, L. B.: Nutrition; The Chemistry of Life, New Haven, Yale University Press, 1923.
9. Plimmer, R. H. A.: Practical Consideration on Vitamin Problems in Nutrition, *Practitioner*, 116:232, 1926.
10. Sweet, Clifford: My Child Won't Eat, *Arch. Ped.* 47:582, Sept., 1930.

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Eczema About the Anus

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ECZEMA is an inflammation of the skin characterized by a variety of primary lesions, such as erythema, papules, vesicles and pustules, and secondary lesions, such as crusts, scales, fissures, and thickening of the skin. The tendency among writers is to regard eczema as a disease entity although Hebra has proven that eczema is nothing more than a dermatitis, but that not every dermatitis is an eczema. Eczema results from some irritant, chemical or otherwise, and may be an acute affair which promptly disappears after the withdrawal of the irritant, or after repeated attacks or prolonged exposure may not disappear even when the cause is withdrawn, but continue indefinitely. Thus a simple dermatitis becomes a chronic eczema.

ETIOLOGY

Etiology—Eczema has no single specific cause. It is the result of a great variety of irritants, direct and indirect. These are internal or constitutional, and external or local; the former are indirect or contributing causes, while the latter are directly productive of the malady. Our knowledge of the internal causes is still unsatisfactory. Blonde and florid persons, and those of active, nervous temperaments usually have dry skin and are more frequently affected.

Diet has an important bearing not only by directly provoking digestive irregularity, but indirectly when food is taken in excessive quantity, by overloading the system with unnecessary supply. Faulty or incomplete metabolism, either directly or by leading to the development of intestinal toxins, is probably an important element in many cases. The fault may lie in imperfect oxidation of the important food elements, due to deficient functional activity of the digestive secretions. Improper foods have a direct exciting influence in many. On the other hand incomplete food supply, by bringing on a nutritive impairment, will likewise act deleteriously; and any digestive upset may bring on an attack. In this manner overwork, physical or mental, or a nervous strain are potential factors. Intestinal parasites, both by reflex impression and direct action on the process of digestion may be a cause. Towle and Talbot found that a considerable proportion of infants suffering with eczema show an excess of fat or starch in the stools. Patients suffering with colitis, hemorrhoids or fistula have an irritating mucus discharge escaping upon the perianal skin which contributes to a subacute eczema.

Diabetes markedly predisposes its subjects to various inflammatory lesions of the skin, and is especially apt to be accompanied by eczema of the genital and perineal regions, especially in women. The saturation of the tissues with sugar makes them particularly liable to infections of various sorts after the slightest injury, and upon the genitals the saccharine urine acts as a powerful local irritant.

Functional and organic uterine disorders and nerve injuries have in some cases an etiologic bearing and are evidences of the action of the nervous system.

Warm weather with its attendant excessive perspiration aggravates eczema about the genitalia or anus. Eczema of the genitals in infants is usually found to be due to repeated wetting by the urine, as well as from the irritant chemical action of the feces and the urine.

Ringworm fungus produces a genuine eczema about the anus.

Any agent which by contact with the skin may produce inflammation is a potential cause of eczema; hence, a large number of chemical substances, drugs, dyestuffs, certain plants, heat, cold and mechanical irritation, such as scratching or rubbing of the clothes, are among the many external causes of the disease. The susceptibility of different individuals varies greatly and while it is possible for an eczema to follow a single exposure to an irritant in individuals with an especially senstive skin, it is in the great majority of cases the result of frequently repeated and prolonged exposure. Certain substances which are not ordinarily regarded as irritants such as toilet soap, dusting powder, toilet paper and rough edges of garment seams are frequently the cause of eczema.

PATHOLOGY

Pathology—The pathological changes in the skin in eczema do not differ from other forms of dermatitis; it is an inherently debilitated skin from the development and action of some peculiar, possibly varied, pathologic epithelial stimuli from within or without or both (Roberts). Whether these changes begin in the epithelium or in the papillary layer is still undetermined. The earliest change is parenchymatous edema of the transitional epithelium. The process is distinctly an inflammatory one characterized by hyperemia, serous exudation, and usually also by blood vessel dilatation, with epithelial and connective tissue proliferation. Micro-organisms are, as in almost all cutaneous diseases, frequently found, but those so far discovered are probably accidental, and only rarely of contributory or of pathogenetic import.

SYMPTOMS

All the symptoms of inflammation appear, each varying in degree in different subjects, and from time to time in the same individual. Redness and some swelling, with or without papules, vesicles or pustules seated upon reddened areas may be present and accompanied by subjective sensations of itching and burning, often of the most exaggerated character. The clinical picture often changes from erythema of today to a vesicular eruption tomorrow, and, in turn, may be replaced by a red raw surface from which oozes a straw colored fluid which dries into thick yellow crusts. Sometimes several types of lesions are present in various areas simultaneously, particularly in the vesicular type. The rectal and vaginal mucous membranes frequently share in the inflammation of the surrounding skin and occasion a most intolerable paroxysmal itching, sometimes accompanied by painful spasm of the sphincters.

The course of the malady is a very variable one: it may be acute, but in the vast majority of cases it is a chronic affection, often lasting months or years.

varying greatly in its symptoms from day to day, often exhibiting acute exacerbations which transform it for the time into an acute inffammation, these exacerbations being the result of improper treatment, scratching, or, not infrequently, of some undiscoverable cause. In long standing cases the skin is frequently greatly thickened, is dry and harsh from suppression of the functions of the sweat and sebaceous glands, and in consequence has lost its pliability and elasticity, so that fissuring readily occurs. (Figure 1.) Exudation is always present, slight in the erythematous type, although here it may be considerable, more intense in the papular, vesicular and pustular types when a notable serous or seropurulent discharge occurs. As this discharge drys scales and crusts remain.

Fig. 1—Chronic eczema with fissuring about the anus. Note the discolorization of the intergluteal cleft, where the erythema has subsided, also the active eczema in the raphe anterior and posterior to the anal orifice.

Furunculosis is an occasional complication and adds much to the patient's discomfort. It is not a part of the eczema but is due to accidental infection of pyogenic cocci, the excoriations and the weakened or destroyed horny layer affording favorable opportunities for inoculation. These lesions are generally met in debilitated subjects.

Types of Eczema Seen About the Anus

Four principal varieties of eczema are commonly recognized in this region, namely: Erythematous eczema, papular eczema, vesicular eczema, and pustular eczema.

A great many secondary forms have been described, and, although there is a wide diversity in the clinical symptoms presented bv these several varieties, it must not be supposed that they represent distinct diseases.

Erythematous Eczema

Erythematous eczema usually begins quite acutely with redness of the skin, varying from a bright red to dull crimson or violaceous, also swelling, itching and burning. It frequently involves the entire intergluteal cleft. After a few days scaling of a furfuraceous, or bran-like character, takes place; and the skin becomes harsh and dry. The horny layer of the opposed epidermal surfaces is often lost through maceration and friction and the skin becomes bright red and moist or oozing (eczema intertrigo). After a week or two the redness may slowly diminish, the itching and burning grow less and speedy recovery seem assured, when suddenly a new outbreak occurs, and all the symptoms, objective and subjective, reappear with their original severity. With these variations the disease may continue almost indefinitely. In chronic cases the skin is dry, harsh, thick and scaly, there is a moderate amount of itching and often little or no tendency to spread beyond its original borders. Even after complete recovery relapses are quite common after the indulgence in rich food or alcoholic stimulants or sometimes without any discoverable cause. Superficial furrows or cracks appear and the sphincter is spastically contracted, the anal orifice appearing small.

Vesicular Eczema

Instead of an erythema, there may appear numerous closely crowded pinpoint vesicles, rounded or acuminated, containing clear or slightly opaque fluid, tending to become pinhead sized or slightly larger and so closely packed in places they coalese. Owing to the thinness of their walls the vesicles are soon broken by the scratching and rubbing of the patient in his efforts to relieve the almost intolerable itching accompanying the eruption, or, when not broken by violence, they rupture spontaneously, giving exit to an abundance of yellowish, viscid serum, which stains and stiffens the patient's linen and dries into yellow crusts. New vesicles constantly succeed the old and ruptured ones, or as frequently happens, these no longer form, but the inflamed skin is transformed into a bright-red surface, denuded of its horny layer, covered with red points from which serum constantly oozes, sometimes in such quantities as to drip from the parts. Oftentimes the most intense itching accompanies the eruption, occurring paroxysmally and driving the patient to the most violent scratching and rubbing in his efforts to obtain relief, which comes only after the vesicles have been broken, and is usually of very brief duration, recurring with all its original severity with each new crop. While the eruption may remain a purely vesicular one it usually is a mixture of papules, vesicles and pustules.

In chronic eczema the flexibility of the skin is much impaired through diminution of the activity of the sweat and sebaceous glands and by infiltration with inflammatory exudate, so that it frequently splits, particularly at moving parts, at the anal orifice, forming fissures.

While no portion of the skin is immune to eczema, certain regions are more likely to be the seat of the affection than others, and a number of regional varieties are recognized in which the clinical symptoms and the indications for treatment are more or less modified by the locality.

Eczema is frequently confined to the anal region, either beginning as such, or, what is quite common, having its origin in a pruritus which for a time presents no visible alteration of the surface. The disease is situated about the mucocutaneous border of the anal orifice and on the opposed surfaces of the nates, or it may be confined to the anal orifice. The skin is red, excoriated, often moist, decidedly thickened and frequently fissured. Not uncommonly the inflammation extends within the anus, upon the mucous membrane. The itching is at times of the severest kind, frequently paroxysmal, compelling the patient to seek relief by scratching, quite regardless of time or place. When the inflammation extends well within the sphincter there may be paroxysms of violent tenesmus which exceptionally may necessitate relaxing or even division of the sphincter itself

for its relief. It is usually worse at night, often interfering seriously with sleep.

One of the most distressing of all topical varieties of eczema is that which affects the external genitalia. In males the disease is most commonly seated upon the scrotum, which is often enormously thickened

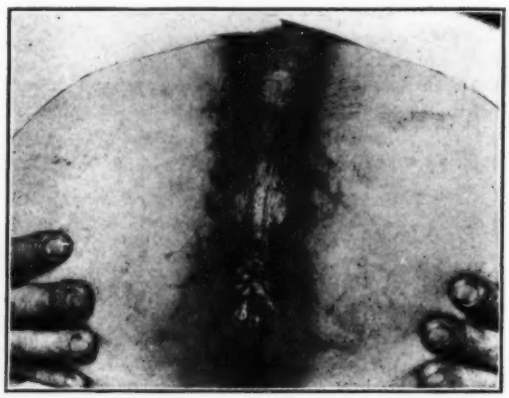

Fig. 2—Chronic eczema about the anus and on the perineum and scrotum

and swoolen, red, scaling, or moist and oozing. (Figure 2). Not infrequently the adjacent parts, such as the inner sides of the thighs, the perineum, and the under side of the shaft of the penis, share in the inflammation. In eczema of the vulva there is quite often great thickening, and the parts are dull-red, dry and scaly, or moist and crusted. Quite commonly the mucous surfaces of the labia are likewise involved and the lower part of the vagina. The itching is often atrocious, coming on in paroxysms, which completely overmaster the patient, who, losing her self-control, violently tears the skin with her nails in her efforts to obtain relief, which usually follows only when free oozing takes place. Patients with eczema of the genitals and anus are often reduced to neurasthenic wrecks by the loss of sleep and nervous energy.

Diagnosis

The violent itching, redness, thickening and infiltration of the skin, the oozing and crusting, and its chronic course are more or less characteristic and distinguish eczema from other peri-anal cutaneous inflammations.

Pruritus—Eczema of the anus and genitals is frequently mistaken for pruritus of these regions, but an examination of the parts will differentiate the two affections. The former is characterized by redness, oozing and excoriations, while in the latter itching is the sole symptom. It must be remembered that eczema is often a sequel of pruritus, owing to the frequently repeated and often prolonged irritations produced by scratching of the parts.

Psoriasis—(Figure 3), even though having a scanty eruption, is more or less general in distribution: eczema more likely is limited to one or two regions; psoriasis patches are variously sized, round and sharply defined: eczema is usually one or more large, irregular areas and shades gradually into the surrounding skin; psoriasis even though found on the perineum will be found on the extensor surfaces of the elbows and knees. Itching is a variable symptom of psoriasis and may be absent.

Scabies—often presents an eczematous eruption due to the parasitic irritation and in the folds of the nates may present distinct eczematous areas. The lesions, however, are usually scattered and discrete and consist of papules, vesicles and small and large pustules. There is usually a history of contagion to other members of the family.

Ringworm of the perineum sometimes assumes an eczematous appearance, but the sharply defined edges of its patches, their clear centers and festooned borders are quite distinctive of ringworm. In doubtful cases microscopic examination of the scrapings will determine its etiology.

Urticaria wheals will almost always distinguish hives from eczema.

Prognosis

In the majority of cases the prognosis as to eventual recovery is good, provided the predisposing and exciting causes of the eczema are removed or kept in abeyance, although in many cases the disease runs a protracted course requiring months to recover. Relapses are common whenever the underlying etiologic factors come into play again. Long standing cases, attended by dryness, scaling and thickening of the skin, are much less readily curable than those

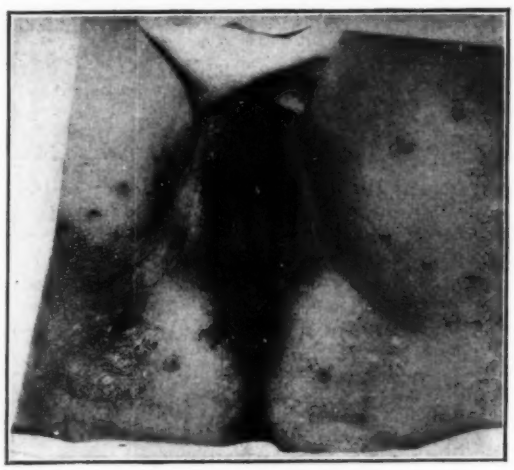

Fig. 3—Psoriasis about the nates

of comparatively short duration with slight or moderate structural change. Especially rebellious are the fissuring forms because the friction, heat and moisture of the parts seem to keep up the disease and to render the applications less efficacious.

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The Treatment of Fibroids of the Uterus

H. H. Schlink and C. L. Chapman consider that in the case of most fiborids of the uterus treatment should be surgical. They believe in: (1) The vaginal removal of most pedunculated submucous fibroids; (2) Myomectomy in selected fertile cases; (3) Total hysterectomy for certain cervical fibroids or cases complicated with malignant disease; (4) Porro's hysterectomy following Cæsarean section in certain cases of fibroids complicating pregnancy; (5) Sub-total hysterectomy with endocervical enucleation for all other cases. Radiotherapy should only be used: (1) In cases in which the tumors are relatively small and uncomplicated by degeneration or diseased appendages, cases, that is, in which the symptoms closely simulate the myopathic uterus (chronic metritic) by causing the postponement of the menopause with severe bleeding after forty; (2) In cases of uncomplicated fibroids requiring treatment, but in which considerations of general health contra-indicate operation; for example, cardiac and renal disease, Grave's disease, diabetes, pulmonary tuberculosis and other respiratory complications and, finally, dread of operation; (3) As an alternative to blood transfusion in cases of profound secondary anæmia to render the patient fit to stand radical curative measures.—(*Medical Journal of Australia*, June 6, 1931), xviii, i, 691.

Episiotomy Versus Laceration

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EPISIOTOMY has opened a wide field for discussion, which this presentation will attempt to analyze, and perhaps formulate some plan whereby we may decide on appropriate, uniform indications for this procedure. It seems as if some such plan should be sought for, since we have so many divergent opinions on the subject, ranging from those who favor routine episiotomy to those who are utterly opposed to surgical enlargement of the vulvar ring under any but the most urgent indications.

The term episiotomy was first used by Michaelis (1799), who incised the median raphé of the perineum to prevent extensive laceration.

It has been defined by Cameron (1) as a "term applied to the operation of incising the genitals during delivery to prevent their laceration, substituting a clean cut of definite size in a place where it can do no harm, for a ragged tear of indefinite size in a place where it may cause immediate danger and subsequent injury."

It has been stated by Jewett (2) that "No method yields better results for the integrity of the perineum than episiotomy rightly timed and properly executed. The ultimate condition of the pelvic floor after episiotomy correctly performed is even better than many natural deliveries in which the parts escape rupture. The tonicity of the structures frequently remains as perfect as in the non-parous woman."

The procedure was rarely employed by Williams (3), who believed that the ordinary perineal tear will heal almost uniformly if properly sutured and cared for. On the other hand, many of his associates resort to it frequently.

The incidence of pelvic floor injuries during labor is greater than one might expect. Reports from various clinics are here presented: Williams (4) encountered slight tears implicating the fourchette in about two-thirds of all primiparae, and in 10 per cent. of all multiparae; Polak (5) recorded pelvic floor injuries in 34 per cent. of all primiparous labors; at the Rotunda Hospital (6) 40 per cent. of all primigravidae get torn perineums requiring repair; Epstein and Fleisher (7) recently reported perineal lacerations sustained in 40 per cent. of a series of 1569 cases, 75 per cent. of them first degree, 24.25 per cent. second degree, and 0.75 per cent. third degree. The third degree lacerations all occurred in primiparae.

These statistics are derived from large series of cases delivered at well organized clinics. No doubt, figures from other sources might be even higher.

Although the greater number of injuries referred to in the above reports are of a minor degree, yet we must remember that a fair sized group of the mothers, even though numerically in the minority, will be left with conditions requiring surgical correction. This is a matter of the utmost medical, social and economic concern, and should receive due consideration.

Everything else being equal, we will unquestionably agree that the patient with an uninjured perineum is better off than one who has been torn, from the standpoint of puerperal morbidity, comfort, future pelvic pathology, and perhaps disability. Also, we are definitely cognizant of the fact that a straight incised wound in a preconceived location is much safer and heals better than a ragged wound which may choose some dangerous route for extension. The latter often occurs when episiotomy is not performed. It is true that a carefully planned incised wound may extend beyond safe territory also, but this is not a very common experience, and depends upon many factors such as the type, the location and the extent of the episiotomy, the discussion of which is beyond the scope of this paper.

It seems logical, therefore, to aim for an uninjured perineum, if we can at all control the situation. If this cannot be obtained, an episiotomy is preferable to a laceration. But the fact should be borne in mind that at least 50 per cent. of all cases will terminate labor without any gross injury to the pelvic floor, and if we subject every case to an episiotomy, we are inflicting a surgical wound where one ordinarily would not occur. This is the problem with which we are confronted. Why intentionally lacerate a perineum when it might be avoided?

The ideal physiological combination opposed to pelvic floor injury should include a firm, elastic soft-part outlet; a passenger with presenting part of proper shape, and not too large to wedge its way through the outlet; and powers which will propel the passenger at the proper rate of speed. These, in the presence of a pelvis of normal size and shape, and a normal mechanism of labor, would practically insure against injuries. There are times, however, when all of these may not be present in the same patient.

Fortunately, nature has endowed the parturient with many of these requisites. In some respects we may compare dilatation of the vulvar ring with that of the cervix. The latter receives some degree of laceration in most labors, yet hardly often or extensive enough to encourage routine incision to facilitate delivery. Of course, in dilatation of the vulvar ring we must consider the absence of aid offered by the bag of waters; also the greater rapidity of the second stage as compared with the more gradual dilatation of the cervix during the first stage of labor; and, lastly, the rapid descent of the presenting part. In other words, the vulvo-vaginal outlet has to undergo a change, similar in a way to that of the cervix, in a fraction of the time that the latter occupies in completing the process.

But, in spite of these obstacles, may we not expect a similar, relatively atraumatic physiological mechanism during the perineal stage? One might think so, especially when the stretching vulvar ring is under direct vision, and in many instances may be controlled and guided by the attending physician. This is the basis for the thought to be expressed, and for the systematic application of various obstetrical fundamentals, in an endeavor to reduce the incidence of pelvic floor trauma.

In attempting to carry out a program such as this, it is well to consider the following:—Predisposing causes of perineal laceration, prevention of laceration, recognition of signs preceding laceration, and indications for episiotomy. The type of incision or

its method of repair will not be discussed here, many favoring medio-lateral, and some, as did Pomeroy,[8] the median location.

The predisposing causes of perineal lacerations can be listed under four main groups as was suggested by Williams:—

(A) Disproportion between the head and vulva.
(B) Too rapid expulsion of the head.
(C) Abnormalities in the mechanisms of labor.
(D) Narrow pubic arch.

We naturally expect some degree of laceration where there is an exceptionally large head, or unusually small vulva. Of course, the importance of the disproportion will depend in a great measure upon the elasticity of the perineum. It is fairly common to see the ready yielding of the vulvar ring to accommodate the passage of a large head. Again, we can visualize a too rapid delivery of the head damaging the perineum when passing through an incompletely dilated vulvar ring.

Concerning abnormalities in the mechanism of labor favoring perineal laceration, the most common is imperfect extension of the head. When extension is not complete, and the sub-occipital region does not impinge under the pubic arch, we are confronted with the passage of the occipito-frontal diameter through the soft-part outlet, instead of the smaller sub-occipito-frontal diameter. This happens quite frequently in women with long and narrow pubic arches, where the head is delivered more in the posterior half of the pelvic outlet, throwing most of the strain on the perineal body instead of through the vulvo-vaginal opening.

Other causes to be considered are abnormal positions, such as a face, brow, or breech; monstrosities; version; and forceps.

In spite of the fact that the potential causes of perineal lacerations might be present, there are various procedures one could resort to in making an effort to prevent these injuries. These are reviewed in the hope that "preventive medicine" might be practiced in the field of obstetrics during labor, and are as follows:—

(A) One should be well acquainted with his case and be aware of the existence of any of the predisposing causes.

(B) Anesthesia to the obstetrical degree during the perineal stage to permit of thorough relaxation, with deeper anesthesia when forceps, version, or breech extraction is resorted to.

(C) Time is an important factor and is essential for the proper stretching of the vulvar ring. Full and complete crowning during sufficient time should be permitted, in order to obtain a gradual accommodation of the vulvar outlet to the circumference of the oncoming head. Delivery should not be rushed, and if necessary, the head may be held back by gentle pressure, or the patient instructed not to bear down with the pains. In some cases it may be well to deliver the head between pains.

(D) Preliminary "ironing out" of the perineum in cases of contemplated version, forceps, or breech extraction, according to the method advocated by Potter[9]. He states that he has never torn the perineum through the sphincter, and only rarely up to the levator, by following this procedure along with deep anesthesia and proper posture of the patient.

(E) Placing the patient in a modified Walcher position relaxes the perineum considerably. This may be accomplished by using an obstetric table as designed by Jarcho;[10] or having two attendants hold the legs; or placing the feet on chairs at each side of the foot of the table.

The lateral position, especially in cases delivering rapidly, may be of some value in preserving the perineum.

Even though these postures are not utilized, one should at least avoid the cruel practice of placing the feet in the old-fashioned high stirrups. This puts the perineum under added tension and greatly favors extensive lacerations, aside from the discomfort and general body strain the position produces.

(F) Favoring delivery of the head by extension will help to a great extent by passing a smaller diameter (sub-occipito-bregmatic) through the vulvar ring. This can be accomplished by first making firm pressure on the occiput until the occipital protuberance is free and the nucha well impinged under the sub-pubic arch. Once this is obtained, the head will deliver by extension, rotating out and up from under the sub-pubic arch.

(G) An empty bladder and rectum are essential. One should not be satisfied with a bladder emptied by voiding, the catheter being more desirable. An enema at the onset of labor will usually sufficiently empty the rectum.

(H) Delivery of the shoulders individually, instead of both at the same time.

The observance of the foregoing precautions will not insure against a ruptured perineum, but will definitely reduce the incidence of the condition considerably. There will always be those cases which will result in serious laceration, in spite of promising to come through without a tear. This will happen regardless of the exercise of the greatest care. It is utterly impossible to gauge cases all accurately and label them in each instance, without error. All that one can be expected to do is to make an honest attempt to safeguard the soft tissues against possible injury to the best of one's ability.

After applying all our resources to combat lacerations we should be on the alert to recognize a beginning tear, if nature fails us in the prevention. Fortunately, there are several indications appearing early enough to permit substituting episiotomy for an inevitable laceration. These signs are as follows:—

(A) By watching the stretched skin covering the perineum, we may note an impending tear by the blanching of an area approaching the vulvar ring border. In some cases the blanching may be associated with a cracking of the skin, outlining the possible direction of the anticipated injury. This type of laceraton usually extends downward externally and might involve the anal sphincter.

(B) Another sign is that of a trickle, or, at times, a moderate flow of blood, coming from the vagina, over the perineum, during the interval between pains, when the head is receding. It is evident that the bleeding will not take place during a contraction because of the pressure of the head against the pelvic floor within the vagina. As soon as the pressure is relieved by the receding head, the bleeding is resumed. This type of laceration tends to extend upward and might continue up to the vault of the vagina.

A precaution to be observed in interpreting this sign is not to overlook bleeding which might be coming from a cervical tear. This can be ruled out by inspecting the floor of the vagina after depressing it with two fingers, in the interval between pains, when the head has receded.

(C) The third sign may, and usually does, precede the two already mentioned, and should predict the following of them. This is really a pre-injury sign, while the others are indications that the laceration has already begun. If the attending physician watches the head striking the vulvar ring repeatedly over a reasonable period of time, without a resulting enlargement of that ring after it has reached what will be its maximum diameter, we are dealing with a perineum which will "bust" unless it is incised. If one is in doubt, he might await the appearance of one or the other mentioned signs, which will not fail to appear.

After having glanced through the predisposing causes and incidence of perineal injuries, along with their possible prevention and signs of impendng laceration, it would seem reasonable to adopt the following plan:—To formulate a practical guide by which we may decide whether or not an episiotomy is called for in a given case. This does not imply that one can draw a line on one side of which a group of cases will need incision and those on the other side will terminate without injury, but, on the other hand, it will serve as an aid in helping us to reach a decision as to the proper road to follow. Finally, this plan should be adopted to include not only prevention of damage to the pelvic floor, but also to enhance the general safety of both mother and child, especially in an emergency.

With the foregoing in view, we might classify the indications for episiotomy as follows:—

(A) To hasten delivery.

(1) In the interest of the baby, for a failing circulation, as determined by auscultation of the fetal heart, or visualizing the circulation of the scalp by finger pressure as advocated by Baer.[11]

(2) In the interest of the mother whenever a rapid delivery is indicated, as in the presence of cardiac disease, toxemia of pregnancy, placenta praevia, exhaustion, etc., where there is a near or full-term baby, the head of which may be expected to be large enough to lacerate a perineum in being rapidly delivered.

(B) Where the predisposing factors favoring pelvic floor injuries are recognized and a laceration can be predicted. If the indications are absolute, one may be justified in performing the episiotomy before the appearance of signs of impending tear; or if relative, one may wait and "test" the perineum, resorting meanwhile to all possible means of injury prevention.

The predisposing causes were referred to earlier in the paper, as disproportion between the head and vulva; too rapid expulsion of the head; abnormalities in the mechanism of labor; and narrow pubic arch.

(C) Where the signs of impending or beginning tear appear, as evidenced by a blanching or cracking of the skin over the perineum; a trickle or flow of blood between pains when the head is receding; or an arrested dilatation of the vulvar ring, in the presence of active uterine contractions.

Summary

It is presupposed that a patient without a lacerated perineum fares better than her more unfortunate sister in so far as puerperal morbidity, comfort, future pathology and disability are concerned. Also, that a carefully planned incised wound in a preconceived location is safer and will heal better than a ragged laceration, which may choose a dangerous and lengthy route for extension.

Therefore, a plan is outlined whereby an attempt may be made to prevent lacerations of the pelvic floor. Various factors, procedures, practices, postures and maneuvers are reviewed in the interest of preventing these injuries.

Conditions favoring perineal tears are discussed, and their recognition is stressed.

Finally, the indications for episiotomy are presented as a prophylactic procedure, to enhance the general safety of mother and baby, where the delivery has to be hastened, and to substitute a safer procedure for an imminent, unpreventable laceration.

It is the purpose of this presentation to encourage the adoption of a practical standpoint from which to view the necessity of episiotomy, which, without doubt, has its place in obstetrics and cannot be dispensed with. On the other hand, it does not seem fair to practice episiotomy as a routine procedure unless a definite indication for its use presents itself; at least 50 per cent. of cases wll deliver without gross injury. Why routinely and intentionally inflict a wound in the perineum of these patients?

In closing, it might be well to quote from Harvie,[12] who in 1767 presented a very interesting monograph on preserving the perineum. He stated that "Nature is to be assisted, to be followed and supported, but seldom or never forced. I wish to dissuade the practitioners of midwifery from hurrying on labours; and to prevent the fatal consequences which are apt to attend that practice. There are, indeed, cases where the efforts of nature are too weak and slow, and where the lives of the mother and child might be endangered by delay; but such circumstances do not occur often. Nature, left to herself, will seldom fail to accomplish her own work; but when hurried on by the impatience of an accoucheur, lacerations, and their most dreadful consequences, must ensue; which can hardly ever be remedied afterwards, but render the unhappy patient miserable for life."

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BIBLIOGRAPHY

1 and 2. An American Text Book of Obstetrics. W. B. Saunders, Philadelphia. 877 and 378, 1895.
3 and 4. William J. Whitridge. Obstetrics. D. Appleton & Co. 1930. Sixth Ed., 379.
5. Polak, John Osborn. Manual of Obstetrics. D. Appleton & Co. 1914: 180.
6. Tweedy and Wrench. Practical Obstetrics. Henry Frowde and Hodder and Stoughton, London. Fourth Ed., 1919.
7. Epstein, H. J., and Fleisher, A. J. Sane Obstetrics. *Jour. A. M. A.*, 97: 219, July 25, 1931.
8. Pomeroy, Ralph H. Shall we cut and reconstruct the perineum in every primipara? *Am. J. Obst.*, 78: 211-220, 1918.
9. Potter, Irving W. The place of version in obstetrics. C. V. Mosby Co., 1922: 82.
10. Jarcho, Julius. The role of posture in obstetrics. *S., G. & O.*, Feb., 1929: 257-264.
11. Baer, Joseph L. An aid to the determination of the condition of the fetal heart during labor. *Jour. A. M. A.*, Vol. 92: 2169, June 29, 1929.
12. Harvie, John. Practical directions, shewing, a method of preserving the perinaeum in birth, and delivering the placenta without violence. London. 1767. Printed for D. Wilson and G. Nichol.

A Cruiser for Cancer

If the cost of one cruiser were turned over to science it would finance cancer research for a century, says Dr. Ellice McDonald, of the Cancer Research Laboratories.

"One cruiser (not even a battleship) would insure banishment of the plague of cancer," according to Dr. McDonald.

More than 100,000 persons die each year in the United States from cancer. To search out the cause and cure of this deadly enemy of the human race is the medical profession's next big job.

Why could not Congress vote the dollars it otherwise would spend to crush a hypothetical foe to crush this actual one?

Such a victory would be worth writing upon history's pages.

Recent Developments in Diagnostic Methods in Asthma*

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BECAUSE asthma is a term which is loosely employed in connection with many different types of wheezy respirations, it is advisable before entering into a discussion of any phase of the subject to indicate specifically the particular clinical entity which is under consideration. Our present knowledge justifies a classification of asthmatic breathing along the following lines[1]:

ASTHMATIC BREATHING (ASTHMA)

A. Bronchial asthma—Atopic (Hereditary) asthma. Synonyms: "Typical," "True," "Spasmodic" asthma, or "Asthma" as the term is employed in its most usual sense.
   1. Immunologic. Mediated by some mechanism of hypersensitiveness (antibody, reagin). May manifest cutaneous hypersensitiveness or may lack positive skin reactions (as in drug sensitivity). Induced by (a) inhalants; (b) ingestants; (c) injectants; (d) contactants.
   2. Non-immunologic. Not mediated by any known mechanism of hypersensitiveness (antibody, reagin). Usually caused by respiratory infection, but also occasionally by organic pathology, physical and chemical agents, endocrine dyscrasias, psychic and nervous disturbances, etc.

B. Non-atopic (Non-hereditary) asthma. Synonyms: "Atypical" or "False" asthma, "Asthmatoid" or "Asthmatic bronchitis."
   1. Non-immunologic. Caused by infection of the respiratory tract or by organic pathology of the heart, kidneys, lungs, thymus, bronchial glands, etc., by foreign bodies in the lungs, tumors, and aneurysms in the neck or chest, etc.
   2. (Immunologic? Ascaris asthma in laboratory workers?)

The studies of Cooke, VanderVeer, Spain, Coca and others (2, 3, 4) have demonstrated beyond a doubt that asthma and hay fever are conditions whose incidence is subject to an hereditary influence. Coca and Cooke have coined the term "atopy" to cover these inherited forms of hypersensitiveness. In frequent association with asthma and hay fever are found conditions such as eczema, urticaria, angioneurotic edema, food and drug idiosyncrasies, etc., all of which are suspected of being atopic.

It will be noted in the above classification that not all forms of bronchial asthma are necessarily immunologic. In fact, in about one-third of the cases, no known mechanism of hypersensitiveness can be demonstrated to be of etiologic importance. In this group all tests for hypersensitiveness to the usual excitants such as pollens, danders, dusts, foods, etc., are negative. Tests with bacterial extracts are of little diagnostic significance, for reasons which will be noted below.

In bronchial asthma of the immunologic type where hypersensitiveness is known to be the cause of the condition, positive skin reactions are not always obtainable on testing. For example, in sensitivity to drugs such as aspirin, quinine, arsenic, etc., cutaneous reactions are not elicited by testing the skin or mucous membranes with these substances.

Significant cutaneous reactions in atopic hypersensitiveness have been demonstrated to be mediated by an antibody known as the atopic reagin. In its main characteristics, this antibody differs from most others. Its most important property is that which was demonstrated by Prausnitz and Küstner in 1921[5]. These workers showed that the serum of Küstner, who was fish-sensitive, could, upon injection into a normal skin, locally sensitize it to fish. In other words, normal skins injected with the fish-sensitive serum of Küstner gave positive cutaneous reactions to fish tests at the injected sites. This phenomenon served as the basis for many of the studies in hypersensitiveness which have been made in the last decade. Probably its most unusual application has been its practical use as the basis for an indirect method of testing for sensitivity[6].

Many instances arise in which direct testing of the patient for hypersensitiveness is desirable but impossible or impracticable, as for instance, under the following circumstances:

1. The patient's skin is abnormal because of the presence of eczema, ichthyosis, urticaria, dermographism, impetigo, etc.
2. The patient is constantly under the influence of adrenalin because of severe asthma.
3. There is antipathy on the part of the patient or the parent to direct testing.
4. The patient is too young or too sick to be tested.
5. The patient cannot come to the physician's office for one reason or another.

Under these circumstances, the indirect method of testing may be advisable. The general outline of the technic may be described as follows:

From 5 to 10 cc. of the patient's blood are drawn under sterile precautions. The blood is defibrinated by whipping, then centrifuged, and the serum drawn off, or the specimen is allowed to stand in the icebox until the serum separates off. The serum is sterilized by passing it through a Berkefeld or a Seitz filter.

The substitute who takes the tests for the patient should, if possible, be a non-atopic individual with normal skin. He may be a relative of the patient, or a stranger, hired for the purpose. He is injected on the lateral aspect of both arms, in two parallel rows of sites. Into each site from 1/15 to 1/20 of a cubic centimeter of the patient's serum is introduced. Between 14 and 20 sites are thus prepared on each arm. The wheals are immediately marked with ink. After 72 hours, the substitute returns for testing, which is done by the intracutaneous method. Each test is performed as with the ordinary intracutaneous technic, about 0.02 cc. of the test solution being introduced into the sensitized site. The same test is then performed on the normal skin about 4 or 5 centi-

* Abstract of address before the Medical Society of the County of Kings, on Tuesday evening, October 20, 1931.

meters laterally or medially. Tests are injected on alternate sites. Reactions are read in about 15 or 20 minutes. The reaction is positive when the response to the test on the sensitized site exceeds that on the control site, either in the size of the wheal, *or* in the amount of erythema surrounding it, or both. Sites untested on the first day are used on the following day. After an interval of 48 or 72 hours, those sites on which no positive reactions were obtained may be used again for tests with other substances. An excess of reaction on the sensitized site over that on the control suggests that a sensitivity has been transferred from the patient to the substitute. It indicates that the patient is either clinically or potentially sensitive to the substance tested.

The above technic possesses an advantage lacking in direct testing in that each test on a sensitized site is controlled by the same test on a normal skin. Nevertheless the indirect method is not offered as a technic which is to supplant the direct method of testing. It should be used only when difficulties make the application of the direct method of testing impracticable. The indirect method has already been employed by the writer in a series of almost 200 cases and has been found of inestimable value.

The indirect method of testing has also been found of service in asthma in the differentiation between positive cutaneous reactions which are significant, and those which are of no clinical importance. In no instance is such a differentiation so imperative and yet so difficult as determining whether a positive cutaneous reaction to horse serum in an asthmatic is or is not a contraindication to the administration of some form of antitoxin or serum[7]. The point in question was illustrated recently in the case of a physician's son, an asthmatic boy of 14, who had stepped on a rusty rake and sustained a deep wound of the foot. The administration of tetanus antitoxin was considered absolutely necessary. Intracutaneous tests with tetanus antitoxin and with the pseudoglobulin fraction of horse serum had been performed upon the patient by his physician, and in both instances marked reactions resulted. As a result of the tests, urticaria developed for which adrenalin was given. When the opinion of the writer was sought, skin testing was impossible because of the presence of urticaria, and because adrenalin had been given a few hours previously. The ophthalmic test, which would have been the test of choice, was also impossible, because the mucous membranes of the eye were injected, probably as the result of the urticaria. The indirect test was therefore resorted to. The serum of the patient was obtained as described above, a subject was sensitized within an hour and tested the following morning. No positive reactions to horse serum or to horse dander were elicited on the passively sensitized sites. In other words, reagins for horse serum were not present in the patient's blood. Under these circumstances, it was considered safe to administer tetanus antitoxin to the patient despite his marked positive cutaneous reaction to horse serum. He was therefore given within a period of 2 hours, by 15 or 20 intracutaneous injections, a full prophylactic dose of tetanus antitoxin. No untoward symptoms resulted except a slight urticaria which was not severe enough to warrant the use of adrenalin.

The intracutaneous method of administering the serum was employed as it was considered the safest for an asthmatic patient. It should always be remembered that horse serum should be administered slowly in an asthmatic individual regardless of whether the skin reaction is positive or not. Intravenous injections should be avoided whenever possible.

The fact that the urticaria following the administration of the full dose of the tetanus antitoxin was much less than that which appeared on the previous day as the result of 1 or 2 skin tests does not indicate, as is frequently supposed, that the patient had been desensitized by the skin tests. It points rather to the presence of cutaneous refractoriness resulting from the initial outbreak of urticaria on the previous day. This phenomenon explains the error in the assumption that atopic patients are desensitized by a few small doses of the excitant. Desensitization in atopic patients within a period of 24 or 48 hours in the sense of a neutralization of reagins in vivo is virtually impossible. The so-called desensitizations which are constantly being reported are cases such as the one described above, in which the hypersensitiveness is not mediated by reagins. The indirect method of testing is therefore of great aid in separating the really significant positive cutaneous reactions from the spurious ones.

Tests with bacterial extracts are of little diagnostic significance in asthma as in practically all instances the reactions obtained are not mediated by atopic reagins. The reactions are of the delayed type and usually indicate the presence of hypersensitiveness of infection. Their significance in diagnosis cannot be said to exceed in importance that of the tuberculin test in the same patient.

References

1. Asthma and Hay Fever in Theory and Practice: Coca, A. F.; Walzer, M., and Thommen, A. A.; Thomas, C. C., 1931, p. 239.
2. Cooke, R. A., and Vander Veer, A., Jr.: *J. Immunology*, 1:201, 1916.
3. Spain, W. C., and Cooke, R. A.: *J. Immunology*, 9:521, 1924.
4. Clarke, Donnally, and Coca: *J. Immunology*, 15:9, 1928.
5. Prausnitz, C., and Küstner, H.: *Zentralbl. f. Bakteriol.* 86:160, 1921.
6. Asthma and Hay Fever in Theory and Practice: Coca, A. F.; Walzer, M., and Thommen, A. A.; Thomas, C. C., 1931, p. 356.
7. Clarke, J. A., Jr., and Gallagher, M. G.: *J. Immunology*, 15:103, 1928.

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Mumps Meningitis

This not altogether infrequent complication of mumps finds its incidence chiefly in young children according to Karl Holtz, and becomes increasingly rare with advancing years. So polymorphic is it that some cases pass unnoticed until severe sequels and an accompanying inflammation of the central nervous system cause a review of the history. Holtz reports what is a most unusual case occurring in a peasant woman, 89 years of age. Beginning with swelling of the right cheek and with headache, its most striking symptom was the rapid loss of speech, followed by somnolence and unconsciousness. The temperature never rose above 37.8°C. (100°F.), and the pulse was always 70-80. There was slight rigidity of the neck, with such other indications of a cerebral process as pupillary disturbances, ptosis, and spasms of the masseter. A lethargic-ophthalmic encephalitis was excluded by absence of sleep disturbances, of increased salivation, etc. Characteristic symptoms of epidemic meningitis, such as perspiration, articular swelling, etc., were also lacking. Lumbar puncture gave exit to a purulent fluid exhibiting first a polynucleosis, then for the most part a lymphocytosis, and finally a pure monocytosis. This finding, however, cannot be regarded as excluding a parotid meningitis. The fact that in mumps a lymphocytosis is so frequently found in the cerebrospinal fluid leads the author to conclude that here the meningeal reaction is in most cases so rapid and runs such a favorable course that the preliminary polymorphonuclear stage escapes notice. Possibly it is found only in the first stage as in this case. A warning is uttered against judging the etiology of meningitis from the cell reaction of the spinal fluid without due regard to its phase, which changes just as is the case with regard to the blood. The punctate examined on 4 occasions in this case never contained any microorganisms, thus easily excluding a cerebral abscess. There could be no doubt that this was a parotid meningitis, although the source of infection remained unknown. The case resulted in cure, with gradual return of faculties requiring a period of several months.—*Deutsche medizinische Wochenschrift*, March 27, 1931.

The Spine and Nerves in Diagnosis

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NO diagnostic study of chronic disease can be complete without careful examination of the spinal column and the cerebro-spinal and great sympathetic nervous systems. The bony system, the posture, the gait, the musculature, the nerves and the reflex centers all mean much in the diagnosis of various diseases.

Kyphosis in moderation may show no sign of disease except the deformity. If extreme the organs of the chest may be cramped and displaced, function impaired, and pressure upon nerves may cause pain and soreness. If attended by scoliosis in the dorsal region neuritis of the intercostal nerves may occur, closely simulating intercostal neuralgia or pleurodynia. Scoliosis may cause a similar pinching of the nerves lower down the spine, disturbing the cord reflex centers and interfering with the function of the abdominal and pelvic organs. Lordosis, when extreme, not infrequently causes pressure upon the genitocrural nerve and produces great soreness and pain along the distribution of the nerve, even into the head of the penis or into the labia majora. The primary cause of these abnormalities is commonly found in tuberculous or syphilitic inheritance and faulty postural habit in childhood. Of course the condition is favored by bad ventilation, insufficient sunlight, infections, and especially by a diet poor in vitamins and defective nutrition.

Osteoarthritis is most likely to be found in the lumbar or sacral region and is of varied etiology: infections, tuberculosis, rheumatism, syphilis. Tuberculosis of the bone may develop either in the dorsal or lumbar region. These diseases of the bone are not difficult to diagnose with the local tenderness, pain, deformity, rigidity of muscle and possibly pus with constitutional symptoms.

Loose sacroiliac joints, from impaired health and general weakness of supports, sometimes cause much backache. The location of pain and the systemic condition of the patient make the diagnosis clear. A very obstinate form of neuralgia may become fixed in the coccyx and be extremely troublesome and intractable for years.

Of course lumbago is always with us; myositis, fibrositis, usually due to strain; traumatism in a patient with weakened structures and pain habit. Poor kidney function and other toxemias, especially those coming from the colon, often complicate this condition.

Syphilis of the spine and cord and the various cerebrospinal inflammations with pain, tenderness, girdle and garter sensations, exaggerated or lost reflexes, spastic or flaccid muscles, ataxia, Romberg, Kernig's sign and other symptomatology are easy enough to differentiate.

Hysteria and other neuroses may lead to general hyperesthesia of the whole spinal column with great tenderness and stiffness, and extreme nervousness with many reflex symptoms. Congestion and inflammation of the pelvic organs may cause agonizing aching pain in the sacral region, in some cases the fourth and fifth lumbar being involved. Rectal disease frequently causes reflex aching in the lower spine, and pathology of the rectum should be sought in such suffering.

So called railway spine is largely a mental traumatism, usually mingled with apprehension of grave disease, and anxiety concerning compensation. But the suffering is none the less real. There is tenderness, stiffness and much radiated reflex suffering with serious distress of nervous character. It requires the most ingenious diagnostic skill to separate the real from the imaginary and to give these patients and their employers justice.

Renal calculus may cause pain located very close to the spine in the region of the kidneys, but the pain is more likely to take a downward direction along the ureter toward the bladder and generative organs. A floating kidney may pull on its attachments and create backache. Other diseases of the kidneys, especially where there is severe inflammation or increased size, stretching the capsule, may cause pain in the back.

Most interesting and instructive of all the pains related to the spine are those that depend upon the cord reflexes. All the thoracic, abdominal and pelvic organs and many others, especially the endocrines, have their spinal cord reflex centers, and the association in the normal functioning and in disease is very intimate. Nothing is more clearly demonstrated in the whole field of medicine than this interlocking arrangement of the cord and its reflex centers with the organs and their work, especially in relation to the great somatic mind that controls organic life, moving unnoticed in the mysterious realm of the unconscious until pathology interrupts and disturbs the smooth running relationship. The spinal cord and its reflex centers and the great sympathetic nervous system associated with the vital organs perform even more remarkable work than the dome of thought itself in the vast field of mind and imagination.

When disease appears and the functions are upset, then the close association is revealed by signs and symptoms. When the lungs are diseased the sensory nerves about the lung center of the cord in the cervical region become tender, and the sensory nerves in certain parts of the chest may become hypersensitive. The heart center is about the seventh cervical, and the first, third and fourth dorsal, and in important disease of the heart the superficial nerves at these points become tender and painful and very likely the sensory supply may become hypersensitive in the region of the heart, particularly about the fifth interspace in nipple line, the fourth at the sternum, and the third above. Violent angina pectoris is referred through the cord to the sternum, across the chest, down the inner surface of the arms to the wrists. Anginous suffering may be referred to the teeth, the throat, the stomach, the upper back, the kidneys and other places.

The stomach reflex center is at about the fifth to the seventh dorsal, but some fibres are closely related to the cardiac and other centers. It is this close relation of the cord reflexes of the heart and stomach that causes so much cardiac pain and dis-

turbed heart action from the stomach, and in some cases leads to agonizing suffering from gastric angina in advanced heart disease. Grave nephritis not infrequently causes a similar reflex pain about the stomach.

Ulcer, or other important pathology at the cardiac end of the stomach, will cause reflex superficial tenderness at the end of the sternum if the stomach is in normal position; at about mid-stomach the tenderness would be one and a half inches lower; at the pyloric end about the same distance lower still, the McKenzie points. Stomach ulcer frequently sends a reflex pain to the back between the shoulders, the stomach reflex center. The overworked or diseased spleen may send a pain through the cord to a point underneath the left shoulder blade, and the diseased liver or gall-bladder to the right in the same way; in some cases to the right shoulder and right lateral chest. The inflamed appendix may refer pain through the cord to the gall-bladder and in many cases to the epigastric region. Excruciating reflex pain about the stomach is a common symptom of gall-bladder disease, either cholecystitis or stone, a reflex through the cord.

The colonic reflex centers are from the ninth dorsal to the second lumbar. The superficial spinal nerves will be found hypersensitive at these points according to the part of the colon involved. Ptosis, stasis, and especially spasticity cause much suffering in this way. The spastic colon will invariably send its sensation to the cord centers and they are reflected back as pain in the hepatic and splenic flexures, and on either side of the umbilicus; and into the chest to the heart and occasionally to the brain, disturbing the mind; and to other points according to the location of the most important spasticity. Many other spine and organ reflexes might be mentioned.

The spinal cord centers of the endocrine glands are of vast importance in diagnosis; the pituitary in the mid-cervical region; the thyroparathyroids about the seventh cervical; the adrenals, the liver and the pancreatic, the eleventh dorsal to the second lumbar; and the gonads, the lower lumbar and sacral region.

Interlacing fibres form an intimate connection between the spinal cord with its important reflex centers and the great sympathetic system, linking up in the closest relationship these systems with the organs of the chest, the abdomen, the pelvis, and all the endocrine glands. These centers and relationships are now fairly well understood. With some knowledge of these facts in the normal, it is easy to see how profoundly pathology of any organ might upset natural law and give rise to important reflex symptoms, and how prompt treatment might set things right.

Two great influences are constantly operating in the spine in disease, both easy enough to discover in diagnostic study; one is that disease of the bone or bad postural attitude may compress the nerves, cause pain and interfere with the function of the organs; and the other is that organic disease may send powerful messages to the spinal reflex centers, producing changes with contraction of muscle and reflex disturbance of various organs.

Careful attention to the spine and especially to the reflex centers of the spinal cord and their close association with all the organs in health and disease will prove a wonderful aid to diagnosis and will do much to point the way to curative treatment.

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National Health Insurance in France

Social insurance was adopted as part of the program of the Radical party in France as long ago as 1885, but only came to the fore when Alsace and Lorraine returned at the end of the war with a complete health insurance system in the German model. The advantages were so obvious that a measure providing similar facilities for the rest of the country was passed through the legislature in 1928. It was largely based on the German model, and was so repulsive to the French temperament that a storm of protest was raised, and the Government hastily suspended its operation. There was then an interim period of two years during which evidence was taken from various bodies, and a new scheme was drawn up; this became law in July, 1930. As is not uncommon in all countries, the medical profession was at first taken unprepared, but the interim offered them an opportunity which they did not fail to seize. So effectively did they combine, and so powerful was their threat of non-cooperation, that every one of their demands was granted, and the resulting scheme may fairly be called a system of health insurance after the doctor's own heart.

Medical men in France are grouped in local professional bodies known as *syndicats*, which are themselves united in a national federation claiming to represent 17,000 doctors. This federation raised a fund of over a million francs, set about a thorough analysis of insurance, formulated its demands, and called a mass meeting at which the demands were adopted. The dentists and pharmacists supported the doctors, and each profession formulated a program for its own particular department. A propaganda campaign was organized; medicl men were urged to maintain a united front, have nothing to do with the scheme, and sign no contracts until these demands had been met. The future insured patients were assured, by leaflets and notices, that the doctors had no wish to oppose insurance, but were determined, in the interests of the patients, that the insured should have the same service as the private patient. The doctors declared that they would never have practice divided into two groups, insurance and private; that they would not have each of their patients turned into a "number," to which medical services would be distributed as "benefits in kind"; and finally, most important of all, that the *sécret médical*, so profoundly revered in France, should never be violated. The slogan of the profession was *entente directe*, a private practice relationship for all insured persons. This involved free choice of doctor, pharmacist, midwife, masseur or other attendant; direct payment of all fees to the doctor by the patient at the time of consultation, and reimbursement to the patient later at the office of his approved society; complete safeguarding of professional secrecy; complete freedom of prescription; and purely medical control of medical matters. The profession insisted cn its altruistic motive, and drove home the saying: "Opprimer le médicin, c'est tuer le malade." In fact, these requiremnets were completely granted, as will be seen from the description of the patient's procedure given on p. 707 in a summary of the provisions of the Act.

Although the revised law was supposed to come into force a year ago, there were certain delays, and there was, as may be imagined, considerable confusion in the early months. Insured persons had great difficulty in understanding what they were supposed to do, and since most of the responsibility for form-filling rests on them, there was for a time something approaching chaos in a good many *caisses*. The scheme can therefore be said to have been working only for about six months, and it is too early to express an opinion on it. It is certainly an extremely interesting experiment, peculiarly adapted to the French temperament. It preserves individualism in a collective movement, and makes the insured person—at least in theory—the equal of the rich patient, who can pick and choose where he pleases, and is allowed to be even fantastic in his choice. On the whole, it seems likely to work. There will, no doubt, be modifications in detail, but probably no alteration in principle. There is a possibility that the victory of the doctors was too great, and that there may be a reaction against the provisions which make the scheme so easy for them. There is severe criticism among all parties of the amount of form-filling and red-tape imposed on the insured person, and also of the discrepancy between the tariff of liability of the *caisses* and the amount that the people have to pay. A serious disadvantage for chronic invalids and victims of long illnesses is the six months' limit set to benefit; but this difficulty may be met when the disability scheme comes into force. In some quarters there is fear lest the *caisses* should organize their own medical service, as in Germany; this is naturally regarded as a potential calamity by the professional bodies, and every effort is being made to promote cooperation with existing health services.—*The Lancet*, Sept. 26, 1931.

Hemorrhage at Base of Brain

This condition may be accompanied by high fever in contrast to other types of cerebral hemorrhage.

Special Article

Social Insurance Is Contrary to the Fundamental Principles of Democratic Government

EDWARD H. OCHSNER, M.D.
Chicago, Illinois

ALL forms of Social Insurance are contrary to the spirit of democratic government. They destroy individual incentive, initiative and self reliance. They substitute paternalistic control for independence of thought and action. We pride and congratulate ourselves on living under a democratic form of government but most of us fail to realize that we are slowly but surely drifting away from the true democratic spirit in government—that we are gradually substituting a hybrid form of government, a cross between bureaucracy and socialism. Personally, I am a firm believer in democracy and believe that many of our present ills are the direct result of already having deviated too far from the fundamental principles of democracy.

Individual responsibility is the foundation of democratic government. If a nation does not educate its citizens to individual responsibility, it will soon have no one capable of assuming public responsibility. Slowly through the ages the common man has risen from chattel slavery and serfdom to independence, freedom and personal liberty, and now some well-meaning but misguided people want to undo all this. They want to enslave him again, making him in fact a bondsman of the state. Organized society is forever forging new chains with which to shackle the free development of its members. It is forever meddling with the private affairs of its citizens. One of the best illustrations of this statement is found in a recent survey of the Citizen's Bureau of Milwaukee which found that that city is engaged in approximately three hundred different functions, one-fifth of which have been added during the last sixteen years. Milwaukee is no worse in this respect than many other cities in this country. Add to this the activities of the county, state and federal governments, and we find an explanation of the following fact—"In a period in which the population of the United States has increased ten per cent the number of persons holding civil office has increased forty per cent and the amount paid in salaries has increased one hundred and fifty per cent." Thirty years ago one person in every forty-five was in government employ while now one in every twelve is so employed.

"It is a profound mystery why the people of the present generation should so violently run after the very things their forefathers so violently ran away from in 1776. One of the chief indictments of King George set forth in the Declaration of Independence reads: 'He has erected a multitude of new offices and sent hither swarms of officers to harass our people and eat out their substance.'"

In a recent article, Dr. Harry Emerson Fosdick makes a statement that seems particularly suitable in this connection. He said, "Many of those in society who are dissatisfied with present conditions know what they want to get away from, but they do not know whither they are going." I would add "nor do they seem to have any clear idea as to what they want." Before we adopt new laws we should make reasonably sure that such laws will not introduce new and greater evils than they are expected to cure, that they can actually be enforced, and that they are not likely to be abused in their administration.

A far reaching innovation such as Social Insurance must be viewed from many angles. We must consider its effect upon the general public, the insured, the employer, and the medical and dental professions.

If we are deliberately trying to get away from the democratic form of government having a definite objective in view; and if we are reasonably certain that the goal for which we are headed is worth while and is going to result in general social and economic betterment, an experiment with Social Insurance might be justified, but, even then, it is well to carefully weigh and consider what the wise founders of our government had to say on this important subject. I quote from the Declaration of Independence: "Prudence, indeed, would dictate that government long established should not be changed for light and transient reasons." If we as a nation are just aimlessly drifting, as we seem to be, we are almost sure to get into serious trouble. We believe that we shall be able to show conclusively, in future articles, that in those countries in which it has had prolonged and extensive trial it actually has had serious consequences. These latter problems will be taken up in subsequent articles.

2155 Cleveland Ave.

American College of Physicians to Award Prize to Dr. O. T. Avery

The American College of Physicians recently selected Dr. O. T. Avery of the Hospital of the Rockefeller Institute of New York City as the recipient of the John Phillips Memorial Prize for 1932.

This prize, an annual award by the College in the sum of $1500.00, is given to perpetuate in the College the memory of Dr. John Phillips of Cleveland, a man of outstanding accomplishments as investigator, teacher and physician, for many years a member of the Board of Regents of the American College of Physicians, who gave his life in saving others on the occasion of the Cleveland Clinic disaster on May 15, 1929.

The Committee on the John Phillips Memorial Prize, through its chairman, Dr. James H. Means of Boston, recommends the award, "To Dr. O. T. Avery for the series of studies upon the Pneumococcus in which he has played a leading role, beginning with the discovery of the type-specific soluble capsular polysacchrides and culminating in the discovery of a bacterium producing an enzyme which splits the polysacchrides of Type 3 Pneumococcus in vitro, thus rendering it susceptible to phagocytosis and thereby protecting the animals infected with it."

The Sixteenth Annual Clinical Session of the College will be held in San Francisco during the week of April 4, 1932. Dr. Avery will deliver an address, "The Role of Specific Carbohydrates in Pneumococcus Infection and Immunity", at the Convocation on Wednesday evening, April 6. At the conclusion of Dr. Avery's address, the prize will be presented to him by Dr. S. Marx White of Minneapolis, President of the College.

The distinction of this award is enhanced by the fact that although it was available the previous year, it was not possible to decide on a suitable recipient. This is, therefore, the first award made. It is the hope of the officers and members of the College that this annual prize in memory of a distinguished colleague may, by recognizing merit, be a continuing stimulus to investigators in those subjects having a direct bearing on the advancement of Clinical Science.

Contemporary Progress

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Neurology

Effects of Treatment on Spinal Cord Symptoms in Pernicious Anemia

C. Davison (*Archives of Neurology and Psychiatry*, 26:1199, December, 1931) reports a histopathological study of the spinal cord in 17 cases of pernicious anemia with symptoms of posterior column and pyramidal tract involvement that came to autopsy. Ten patients had been under observation prior to the introduction of liver therapy for pernicious anemia; the other 7 had all been given liver. Liver was not given early in the disease in one case; in 5 cases it was given for a year or more; in 2 cases not more than six months. Of the entire group, only 2 cases showed definite clinical improvement in the neurologic signs and symptoms under liver treatment. Histologically all of the cases treated with liver showed a glial proliferation not found in the untreated cases; this was a progressive glial change and varied in intensity in the different cases. The intensity of the changes showed no relationship to the duration of liver treatment nor its early administration. The changes in the myelin sheaths and axis cylinders in the treated cases were the same as those in the untreated cases. These findings indicate, in the author's opinion, that liver therapy causes a reduction either in the amount or the strength of the hypothetical toxin producing spinal cord changes, and therefore allows the glia to proliferate and replace destroyed tissue. The only effect that liver therapy can have on the myelin sheaths and axis cylinders is to prevent further destruction; regeneration of axis cylinders is impossible. However, "to delay the process of destruction of the axis cylinders and to cause the formation of a glia scar is in itself an advantage."

L. Guttmann (*Zeitschrift für die gesamte Neurologie und Psychiatrie*, 137:354, Nov. 25, 1931) reports 3 cases of pernicious anemia with severe spinal cord symptoms treated with desiccated stomach. In all these cases not only the blood picture and general condition but also the neurological symptoms showed marked improvement. All three cases showed symptoms of both posterior column and pyramidal tract involvement; all the symptoms showed definite improvement. All of the patients had shown marked ataxia with inability to walk, and under treatment became able to walk with only a cane. The mental condition also improved in each case. To maintain the improvement the administration of the stomach preparation had to be continued. This author also reports 2 cases treated with a combination of stomach and liver; the same stomach preparation was used as in the other cases, and liver was given partly as fresh liver and partly as liver extract. These 2 cases also showed marked improvement in spinal cord symptoms. These results lead the author to suggest that stomach preparations alone or in combination with liver may be more effective than liver alone in relieving the spinal cord symptoms of pernicious anemia.

COMMENT

These two articles, one dealing with the purely clinical phase and the other with a histologic description, are interesting because of their apparent contradiction, which, however, is not real.

L. Guttmann obtained marked improvement in his small group of cases. Minot has pointed out that cases of primary anemia with spinal cord involvement require much more intensive treatment than the apparently uncomplicated case. The fact that Guttmann's cases responded so well is convincing proof that the involved tracts in the spinal cord were not destroyed. It is generally recognized that nerve tissue within the central nervous system (cells and axis cylinders), once destroyed, can never be replaced by normally functioning nerve fibers. If the physiologic functions of the involved tracts are regained completely, it implies temporary loss of myelin sheaths, pressure, simple edema, or swelling from other causes, and not destruction. In such fashion must Guttmann's cases be interpreted. In the reviewer's experience, as pointed out before in these columns, even though the patient makes a rather startling improvement, usually a careful clinical examination reveals an obvious persistence of physical findings indicative of involvement of either the posterior or lateral columns, or both. Up to the present time, in a fairly large series of cases of pernicious anemia with involvement of the central nervous system, we have not had one case where this disturbed function has been restored completely to normal.

H. R. M.

Acid-Base Equilibrium in Neuroses and Psychoses

K. E. Appel and his associates at the Pennsylvania Hospital, Philadelphia, (*Journal of Nervous and Mental Diseases*, 75:22, January, 1932) report a study of the acid-base equilibrium of the blood of psychotic patients. Most of these cases were of the manic-depressive type, there were some cases of schizophrenia, some cases in which the diagnosis between manic-depressive psychosis and schizophrenia had not definitely been made, and cases of toxic psychosis and psychoneurosis. In these cases the total base content of the blood plasma was normal; the blood chlorides were also normal. There was an increased "acid residue" in the involutional depressions, but it was not of markedly significant degree. The carbon dioxide content of the plasma was within normal limits except in those cases complicated by: "new admission" factors, toxic conditions, physical abnormalities, or resistance to venepuncture. No relationship was found between habitual motor activity and the degree of acidosis in uncomplicated cases; but involutional depressive patients were found to have a definite acidotic tendency.

M. Wolff (*Deutsche Zeitschrift für Nervenheilkunde*,

123:197, Dec. 11, 1931) reports a determination of the alkali reserve in 16 neurotic patients (cases of hysteria and neurasthenia). In all of these the alkali reserve was found to be well within normal limits; none showed a tendency to acidosis.

COMMENT

Increasing attention is being paid to the emotional and maladjustment problems of individuals in society, ranging from the neuroses of various types to their more serious tangential offshoot, the psychoses. This focusing of attention can be readily appreciated in observing the space now devoted to the problem in our various medical journals. Also the lay public is becoming increasingly better informed and increasingly interested, which condition is reflected in the vast material pertaining to psychologic problems found in the numerous vari-titled and multi-colored magazines, the lay press, books (analytic-bibliographic) and the stage.

It is up to us, as physicians scientifically interested, to pave the way in laying a firm foundation chiefly through sound scientific investigation. Articles of the type such as those of Appel and also Wolff, representing careful clinical work, are foundation stones on which to build. While psychologic factors are largely responsible, we can not ignore the tremendous changes seen at their best in the depressed manic-depressive or the schizophrenic individual. Hence the finding of "a definite acidotic tendency" in "the involutional depressed" patient may suggest a basis for adjuvant constructive therapeusis.

H. R. M.

Treatment of Infections of the Central Nervous System by Forced Spinal Drainage

G. M. Retan (*New York State Journal of Medicine*, 31:1378, Nov. 15, 1931) reports the treatment of various infections of the central nervous system by forced spinal drainage, *i. e.*, prolonged spinal drainage, combined with the intravenous injection of a hypotonic saline solution. The use of this method is based on the findings of Kubie that with the intravenous injection of a hypotonic solution there is some hydration of the central nervous system, if the subarachnoid space is not drained; but if the subarachnoid space is drained continuously, osmotic equilibrium is not established and the perineural spaces are washed as long as the drainage is continued. The author uses a 0.45 per cent. sodium chloride solution, giving 1,000 c.c. intravenously, injecting slowly. Spinal drainage is continued as long as seems desirable—in the cases reported from twenty to over forty hours. Serum treatment may be combined with this method if indicated in any case. The author has used this method in the treatment of pre-paralytic poliomyelitis, encephalitis and various types of meningitis. He has found that it is safe; and in a number of cases has given good results with no residual symptoms. In septic meningitis this treatment must be given early to be effective, before a plastic exudate forms on the brain. Further trial of this method is desirable.

Epileptic Convulsions of Dementia Paralytica

H. H. Merritt (*Archives of Neurology and Psychiatry*, 27:138, January, 1932) in his research work at the Deutsch Forschungsanstalt in Munich, found sclerosis or fresh, ischemic ganglion cell changes in the cornu ammonis in 34 cases of dementia paralytica. Clinical histories were obtained in 30 of these cases. All of these 30 cases were diagnosed clinically as dementia paralytica and the diagnosis confirmed by the pathological studies. Of these cases, 26 showed typical convulsive attacks, one petit mal, one an epileptiform attack, and there was no history of any convulsive attacks in 2 cases. The incidence of epileptiform phenomena in these cases with cornu ammonis lesions was, therefore, more than 90 per cent. In none of these cases was there evidence of an organic occlusion of the vessels of the cornu ammonis, and the changes must be considered as due to a functional disturbance of the circulation (vascular spasms). The high incidence of epileptiform phenomena in these cases indicates a casual relationship between the vascular spasm and these phenomena.

Treatment of Hydrocephalus With Theobromin Sodiosalicylate

H. T. Nesbit (*Southern Medical Journal*, 24:1028, December, 1931) notes that the diagnosis of hydrocephalus is usually not difficult, but before intelligent treatment can be instituted, the type of hydrocephalus present must be determined. Active meningitis and syphilis must be excluded by the usual laboratory tests. And it is especially important to determine whether the hydrocephalus is of the communicating type with open channels, but with increased pressure, or is of the obstructive type with definite obstruction between the ventricles and subarachnoid spaces. Ventriculography is of great value in determining the character of hydrocephalus, but its use clinically is not necessary in the majority of cases. A ready flow of cerebrospinal fluid when lumbar puncture is done, especially if pressure on the fontanel or jugulars causes an increased flow, indicates that the hydrocephalus is of the communicating type. Failure to obtain fluid or a scanty flow indicates the presence of an obstruction. In the obstructive type of hydrocephalus the only possible treatment is surgical, and this carries a high operative mortality. In the communicating type of hydrocephalus repeated lumbar punctures or cisterna punctures relieve symptoms, but usually only temporarily. On the basis of Marriott's findings, that an increase in the surface tension of the blood causes fluids to pass from serous cavities and intercellular spaces into the blood, the use of drugs that raise the surface tension of the blood is suggested for the treatment of hydrocephalus. The purin diuretics have this effect, and theobromin sodiosalicylate (diuretin) has been used in the treatment of hydrocephalus in infants with good results. The author reports 2 cases of hydrocephalus of the communicating type in infants in which treatment with theobromin sodiosalicylate was begun at one month of age and continued to fourteen months and one year of age respectively, with some intermissions. When the drug was given regularly the increase in the size of the head ceased and all the symptoms of increased pressure subsided. When it was temporarily discontinued, the symptoms returned. But in each case when it was finally discontinued after prolonged medication, there was no recurrence and the child continued to develop normally showing no symptoms except a slightly enlarged head. The initial dosage was ¾ grain three times a day, increased to 1½ grains three times a day. There were no ill effects observed.

Physical Therapy

Roentgen Treatment of Agranulocytosis

A. E. Taussig and P. C. Schnoebelin (*Journal of the American Medical Association*, 97:1757, Dec. 12, 1931 note that while it is nine years since the symptom complex known as agranulocytosis was first described, the etiology is still fundamentally a mystery. The authors have been able to collect from literature 334 well authenticated cases of agranulocytosis. Of these 64 cases were

treated by irradiation of the long bones with 53 per cent. mortality; 53 by blood transfusion with a mortality of 64 per cent.; 53 with arsphenamine with a mortality of 73 per cent.; and 178 by other methods with a mortality of 75 per cent. The largest group of cases treated by irradiation of the long bones is that reported by Friedemann and Elkeles, 43 cases, of which 18 were moribund when first seen. Of the remaining 25 patients, 12 died, a mortality of 48 per cent. The authors report 4 cases of agranulocytosis treated by Roentgen-ray irradiation of the long bones; of these 2 died and 2 recovered, a mortality of 50 per cent. These figures indicate clearly that Roentgen-ray irradiation of the long bones is the best method of treatment so far employed in the treatment of agranulocytosis. Blood transfusion is also of value and may well be combined with irradiation in the more severe cases. The dosage recommended by Friedemann is 1/20 of an erythema dose given daily. This dosage was employed in 3 of the author's cases; in one case a dose five times as great was used. In this case one or two exposures caused a prompt and satisfactory response in the blood picture and recovery was rapid. With the smaller dosage, the response was slower; there was a definite temporary improvement in the blood picture, however, even in the fatal cases, showing that the irradiation had a stimulating effect upon the bone marrow.

Radium and Pain

R. S. Pilcher (*Lancet*, 2:1175, Nov. 28, 1931) reports a study of results of treatment with radium in 59 cases in which pain was or is a prominent symptom. There were 43 cases in which pain was present before treatment; in 21 of these pain was not relieved by treatment, but in 2 it was ameliorated; there were 12 cases in which pain was definitely relieved; of these 10 are living although the disease is apparently cured in only 5 of them. There were 16 cases in the group studied in which pain developed after treatment. From a study of these cases, the author concludes that radium treatment is able to relieve deep-seated and referred pain due to malignant disease. The only painful sequalæ that can be directly referred to the radium treatment are radio-necrosis and direct injury to nerves. By increasing the fibrous tissue reaction to a growth radium may aggravate pain due to pressure on nerves, but the only factor in treatment that seems constantly to determine a painful sequel is overdosage sufficient to cause radionecrosis.

Ultra-Violet Radiation In Non-Tuberculous Cases

S. I. Muller (*New York State Journal of Medicine*, 32:16, Jan. 1, 1932) reports the use of ultra-violet radiation in 200 non-tuberculous cases. These cases include cases of defective nutrition, malnutrition, etc., about 30 per cent.; various infections, about 65 per cent.; and nervous disease, about 5 per cent. In most of these cases general ultraviolet radiation treatments were given; in a few cases of herpes zoster, neuritis, etc., local treatments were given to relieve pain. Dietary regulation and medication, when indicated, were combined with ultra-violet irradiation. A comparison of the results obtained in these cases by ultra-violet irradiation with results obtained by change of climate and environment showed that the latter benefited only 50 per cent. of cases; while 90 per cent. of those treated by ultra-violet irradiations were definitely improved. In this latter group also, the improvement was brought about without interfering with the patients' usual mode of living or occupation. The results achieved by ultra-violet irradiation in these cases include: A destruction of infection and its demonstrable changes in the tissues by absorption or calcification. General nutritional improvement, better utilization of foods and gain in weight. Relief of fatigue and depression. Ultra-violet radiation has also been found to be of definite value in pre-tuberculous conditions in children and adults.

Effect of Ultra-Violet Energy on Erythrocytes

E. Mayer and M. Dworski (*Archives of Physical Therapy*, 12:709, December, 1931) report experiments on the changes induced in red blood cells *in vitro* by exposure to ultra-violet irradiation. It was found that ultra-violet energy produced by the Kromayer lamp, with wave lengths bellow 300 mμ. μ caused hemolysis of human and guinea-pig red cells. The liberation of pigment from the red cells was accomplished without evident rupture of the cells. While it is true that *in vitro* results cannot always be correlated with *in vivo* results, the findings reported by many investigators in regard to the effect of ultra-violet irradiation on the red cells in human cases are not at variance with the authors' experimental results. "It is tempting to infer that with a moderate dosage of ultra-violet irradiation there is a definite stimulation of hematopoietic centers of the body due to substances released into the blood from the permeable red cells."

Diathermy in Post-Operative Lung Conditions

N. J. Seybold (*Archives of Physical Therapy*, 12:610, October, 1931) reports that at St. Vincent's Hospital, Toledo, Ohio, diathermy has been used in the treatment of post-operative lung conditions for the last five years. Large electrodes that cover the whole chest are used, made of mesh and sewed on one inch thick white felt; different sizes are available to fit large and small chests. The electrodes are placed posteriorly and anteriorly, and in some cases of pleurisy also laterally. Treatments are given for thirty minutes or longer, every twelve hours or oftener. The milliamperage used averages from 1,500 to 3,000. In the past five years 246 post-operative lung disorders—pneumonia, pleurisy, bronchitis, pulmonary edema and infarcation—have been treated by diathermy. The treatment is not indicated in atelectasis, and in the more recent series these cases have been excluded by means of *x*-ray diagnosis. In the majority of the cases, improvement was noted in twenty-five to thirty-six hours, with lowering of temperature, relief of pleuritic pain, diminution of cough, and improvement in the pulse. In cases in which no improvement was noted in three days the *x*-ray showed either atelectasis or fluid. Of the 246 cases treated, 24 died, but in these death was not due solely to the chest complication.

Static Massage Following Diathermy

J. E. Rueth (*Archives of Physical Therapy*, 13:21, January, 1932) notes that the effect of diathermy treatment is to produce an intense (arterial) hyperemia; to relieve pain that is caused by ischemia; to increase local metabolism; and also to increase general metabolism following the radiation of heat through the blood stream; the heat of diathermy also has a softening effect on inflammatory exudates in the tissues. In giving a static treatment the patient is placed on a convertible metal-free chair or table on an insulated platform; the positive electrode is of a suitable size and shape for application to the part to be treated. When the current is applied, the patient feels only a local vibration, rhythmical muscular contraction and relaxation, absolutely painless if the treatment is correctly given. It acts as a deep, soothing massage. The author gives ten to fifteen minutes static treatment following diathermy, and finds that good results are obtained more rapidly in many types of acute

and chronic inflammation. In the more chronic types with dense fibrosis, the static treatment is essential, and gives good results in combination with diathermy in cases where the latter alone has failed.

Gastro-Intestinal Tract and External Electric Stimulation

G. S. Reynolds (*Radiology*, 17:1276, December, 1931) reports a Roentgenological study of the response of the gastro-intestinal tract, when a slow sine wave current was applied to the abdominal wall with sufficient amperage to produce contractions of the abdominal muscles. It was found that electric stimulation of the external abdominal muscles over the stomach produces no consistent or specific change in gastric tone or peristalsis. Electric stimulation over the colon produced the following changes: Ascent and descent of the colonic flexures and transverse colon, producing a motion of the colon similar to that produced by deep diaphragmatic respiration. Secondary to this, there is an alternating lengthening and shortening of the colon, resulting in "a to-and-fro movement" of the colonic contents, especially in the region of the flexures; this was not very striking. There was also a certain amount of massage effect on the colon, due to the contraction of the abdominal muscles. These experiments especially emphasized the value of electrical stimulation in developing the abdominal muscles; this phase, the author believes, is insufficiently employed for patients who cannot take active exercise or who fail to carry out exercise instructions.

Public Health

Diphtheria Prevention in Philadelphia

E. L. Bauer (*American Journal of Medical Sciences*, 182:839, December, 1931) reports that in the five years of 1926-1930, 96,252 children of pre-school age have been immunized against diphtheria by the Philadelphia Department of Public Health; this represents 47.8 per cent. of the children of this age-group in the city. In addition children of this age-group have also been immunized by private physicians and hospitals and other welfare agencies, but exact statistics have not been reported to the Department of Health. It is estimated, however, that 55 per cent. of pre-school children in the city have been immunized and an additional 25 per cent. are naturally immune. In addition, over 60 per cent. of school children have been immunized. In the last year the incidence of diphtheria in the city has been decreased 80 per cent. as compared with the incidence before immunization was begun. In 1925 to 1930, there were 40 cases of diphtheria among children of pre-school age for whom immunity was claimed; 21 of these cases occurred among those for whom the Department of Health claimed immunity. This very low incidence of diphtheria among children for whom immunity was claimed represents "the human element of error in the interpretation of the Schick test," in the author's opinion. In the same period there were 4,912 cases of diphtheria among all children of pre-school age in the city. The number of cases among immunized children, therefore, represents less than 1 per cent. of the total number of cases. There is no evidence of any diminution in the virulence of the disease, as the case mortality rate has not been reduced. No other new factor except immunization has been used to combat the spread of infection, and the lowered incidence of the disease must be attributed to this measure.

Diphtheria Toxin-Antitoxin and Toxoid

W. H. Park and M. C. Schroder (*American Journal of Public Health*, 22:7, January, 1932) state that in the work of diphtheria immunization in New York City, they have found that the immunizing effect of the best preparation of toxoid available is somewhat better than that of the best properly standardized toxin-antitoxin. With three injections of 0.5 c.c. each of toxoid, about 94 per cent. of successful results have been obtained. Toxoid causes somewhat more reaction in older children than the toxin-antitoxin mixture. Hence Park has recently adopted the use of toxoid for the immunization of children of preschool age in New York City, and toxin-antitoxin for school children and for such adults as require it, such as nurses. He is inclined to believe that toxoid may soon be used exclusively, especially if the substance causing pseudo-reactions can be removed from it. The use of toxoid mixed with lanolin and rubbed into the skin also is of value for the immunization in certain instances, as for children in institutions and for cases where there are objections to the use of the "needle." Alum 0.1 to 0.2 per cent. added to the toxoid definitely increases its immunizing power.

Drought and Health

M. P. Ravenel (*American Journal of Public Health*, 21:1198, November, 1931) notes that "history abounds in instances of disease following shortage of food." The most common cause of lack of food is failure of crops and in the United States, 22 states were included in an area stricken by drought in 1930, which resulted in a loss not only of staple food crops, but also of vegetable and garden crops. In some of the states affected conditions were aggravated by the previous destruction caused by the Mississippi flood. In addition to the loss of crops, there has been a great shortage of water, and water from any available source, whether contaminated or not, has been used. Reports of health officers from the various states involved and of the directors of units established by the Public Health Service for the drought emergency show that the chief effects of the food insufficiency and lack of water supply have been felt in the rural districts. These reports agree in showing an increase in intestinal diseases, especially diarrhea and enteritis in children under two years of age, and in typhoid fever; and also an increase in malnutrition, as evidenced by underweight, and in such deficiency diseases as rickets and pellagra. These reports are, of necessity, only preliminary and incomplete; the ultimate effects of the drought will not be known until more complete studies have been made and a longer time has elapsed.

A Milk-Borne Epidemic of Typhoid Fever

S. H. Hurdle (*Journal of Preventive Medicine*, 5:465, November, 1931) reports an epidemic of typhoid fever in which infection was traced to milk from one dairy, illustrating the danger from a single carrier in even an occasional contact with food or milk supplies. In this epidemic 80 cases of typhoid occurred within a month, mostly within two weeks, in a town of about 11,000 population (Salisbury, Md.); there were 7 deaths. The majority of the patients were in good financial circumstances and living under good sanitary conditions in the residential section. No secondary cases developed among persons in contact with typhoid fever patients; this is attributed to the fact that contacts and many others were immunized, and also that most of the patients were either hospitalized or had nursing service at home. An investigation of the source of infection showed that the water supply was free from contamination; and that sanitary conditions in a local ice cream plant were entirely satisfactory. The infection was traced to milk from a single dairy, or more particularly to milk from

one of the farms supplying this dairy. On this farm a typhoid carrier was found, who did not regularly handle the milk, but who had assisted in handling the milk on at least one occasion in the early part of July. Otherwise sanitary conditions and methods of handling the milk at this dairy and on the farms supplying it were satisfactory.

Hydrocyanic Gas Poisoning Through the Skin

P. Drinker (*Journal of Industrial Hygiene*, 14:1, Jan., 1932) cites 3 cases reported to him by the U. S. Bureau of Mines in which men wearing gas masks in an atmosphere containing approximately 2 per cent. of hydrocyanic acid gas, developed symptoms of marked dizziness, weakness and throbbing pulse and were compelled to leave the poisonous atmosphere to avoid collapse. It was found that the masks used gave excellent respiratory protection, so that absorption evidently took place through the skin. The men were incapacitated for two to three days, the chief symptoms being weakness, headache and rapid pulse, but completely recovered. The author's review of the literature shows that little attention is given to the possibility of the absorption of hydrocyanic gas through the skin. Since August 24, 1928, however, the U. S. Bureau of Mines has attached a label to the canisters approved for use against hydrocyanic gas, stating that while the canister will give respiratory protection against 2 per cent. hydrocyanic gas in the atmosphere, exposure to such concentrations "is not safe" owing to the possibility of absorption through the skin.

Ophthalmology

Dystrophy of the Corneal Endothelium

L. C. Peter (*Archives of Ophthalmology*, 6:817, December, 1931) reports 22 cases of dystrophy of the corneal epithelium. This condition, he notes, can be diagnosed only by the use of the slit-lamp. The earliest stage can be recognized only by direct illumination along the line of spectacular reflection (D. I. S. R.), with most careful adjustment of the beam and of a microscope of high power. At this stage, vision is not diminished by the dystrophy *per se*. This earliest lesion is found in the center of the cornea and with direct illumination appears as large black areas; with indirect illumination as "glints" of golden hue. As the condition advances, it spreads toward the periphery, until the entire endothelium becomes involved, the black areas becoming more numerous. In addition a network, resembling burnished silver, develops around the black areas. Vision is reduced. At this stage the dystrophy can be recognized with an ophthalmoscope and a + 20.00 lens, which shows round or irregularly oval depressions in an otherwise normal red fundus reflex. In the author's 22 cases, all but 4 of the patients were women; the average age was sixty-one years, the youngest patient forty-one years of age. All showed a lowered vitality; and in confirmation of the degenerative character of the process all showed either senile cataract (14 cases) or nuclear cataract (8 cases). All gave a history of impaired health for a long period of time, all being afflicted with a vascular disease. The dystrophy was progressive in each case; it is, the author believes, a degenerative process caused by a lack of nutrition of the ocular tissues. Although it is often associated with senile and nuclear cataract, there is no relation between the two except that both are ocular complications in patients with nutritional disturbances. The condition, he believes, is of much more frequent occurrence than the number of cases reported would indicate. In the one case in his series, in which cataract extraction was done, the healing process was much delayed, due to the lowered tissue vitality. Endothelial dystrophy, of the type described, evidently increases the risks of intraocular surgical operations, and its presence is an indication to delay operation until absolutely necessary.

Elective Localization in Chronic Uveitis

E. C. Rosenow and A. C. Nickel (*American Journal of Ophthalmology*, 15:1, January, 1931) report experiments to determine whether or not elective localization of bacteria from infective foci occurs in chronic uveitis. Rabbits and dogs were inoculated by different methods with living streptococci isolated from various foci of 10 patients with eye lesions, including hyalitis with vitreous opacities, 2 cases; iritis, 3 cases; iridocyclitis, 2 cases; follicular corneal ulcers, 1 case; and vitreous opacities, 2 cases, with hemorrhage in one and with conjunctivitis in one. Of the 45 rabbits inoculated by various methods, 40, or 88 per cent., developed ocular reactions in varying degrees, marked in 21 animals, moderate in 10, and slight in 9. Of animals given intravenous or intraperitoneal injections of killed cultures of streptococci isolated from these cases practically all developed a definite ocular reaction. The streptococci isolated from these patients were all much alike in their morphological and cultural characteristics. In some cases the removal of foci and the use of autogenous vaccines prepared from the streptococci isolated have given excellent therapeutic results in some cases of chronic uveitis. In other cases results have been disappointing. As the streptococcus having elective localizing power has been isolated from various foci in cases of uveitis, and often from several foci in the same patient, "not too much should be expected from the removal of a particular focus in individual cases." The removal of foci and the use of vaccines are not enough to solve the problem. In some cases a specific antiserum may be required. A hyperimmune serum has been prepared from streptococci with elective affinity for the eye and is now being used to type different strains; the effect of this serum on patients with eye lesions due to such localizing strains is also being studied.

Exophthalmos in Infantile Scurvy

J. H. Dunnington (*Archives of Ophthalmology*, 6:731, November, 1931) reports a case of exophthalmos in an infant with scurvy, and notes that while the text-books recognize this symptom as occurring in about 10 per cent. of cases of infantile scurvy, comparatively few cases are reported in detail in the literature. In 22 authentic cases analyzed, the average age was 10½ months; the author's own patient was 7 months of age. In 17 cases the exophthalmos was unilateral and in 11 the left eye was involved, as in the author's case. The exophthalmos of infantile scurvy is non-pulsatile and irreducible; any attempt to reduce it causes much pain. The exophthalmos in scurvy is due to subperiosteal hemorrhage of the orbit. Although this is the most striking ocular lision in scurvy, hemorrhages into the lid, conjunctiva, anterior chamber and retina have also been described. In the author's case the left upper lid was swollen and ecchymotic; the eye was pushed downward, forward and outward. Antiscorbutic treatment with 3 ounces (88.76 gm.) of orange juice daily resulted in rapid disappearance of the swelling of the lid and of the exophthalmos. In a week the child left the hospital in good condition and the eye entirely normal in appearance.

Exophthalmos of Central Origin

W. R. Brain (*British Medical Journal*, 2:937, Nov. 21, 1931) notes that he has observed a number of cases of exophthalmos in which the condition was evidently of

central origin, *i. e.*, occurring in association with signs clearly indicating organic lesion of the central nervous system. Exophthalmos of this type may be associated with supranuclear ocular palsies, especially paralysis of conjugate vertical movement and convergence; with external or internal ophthalmoplegia, and with lid retraction or ptosis, either of which may be unilateral or bilateral. The exophthalmos itself may be unilateral or bilateral. The lesions associated with it are pathologically varied and usually obscure; none of the author's cases have come to autopsy. Chronic encephalitis lethargica, especially of the Parkinsonian type, has been responsible for a small number of cases. Several have high blood pressure; in a number of cases the exophthalmos has been associated with ophthalmoplegia and enlargement of the thyroid, although the relationship between the two is difficult to explain. Clinical signs and symptoms indicate that the lesion is usually in the midbrain.

Pigmentation of the Conjunctiva in Vitamin A Deficiency

A. Pillat (*Archiv für Ophthalmologie* (*Graefe*), 127:575, Dec. 19, 1931) reports from Peiping (China) Union Medical College that in addition to the eye symptoms regarded as typical of vitamin A deficiency—prexerosis, xerosis, and keratomalacia—he has noted a peculiar pigmentation of the conjunctiva in adults suffering from vitamin A deficiency. In Europe definite vitamin A deficiency in adults is rare, but in the Orient it occurs more frequently. In children with keratomalacia, due to vitamin A deficiency, this pigmentation may also be observed, but usually it is less marked. In China, owing to the dietary habits of the poorer classes, vitamin A deficiency in adults is not unusual. The conjunctival pigmentation observed in these cases develops in the early stages of this deficiency, before xerosis and keratomalacia, but it persists after other eye lesions have developed If there is no complicating inflammation, the pigmentated areas are grayish, sometimes dark brownish gray; if there is any inflammation, the color becomes more violet. The distribution of the pigmentation is not regular; it is most marked in the inner canthus of the eye and more marked in the conjunctiva of the lower lid and the eyeball than that of the upper lid. Examination with the slit-lamp shows that the pigment is deposited in the epithelium. This pigmentation disappears, when adequate quantities of vitamin A are added to the diet, especially in the form of cod-liver oil; but it does not disappear as rapidly as other signs of the deficiency. The author is of the opinion that if a careful examination of the eyes is made in cases of suspected vitamin A deficiency in Western countries, this pigmentation will be found more frequently.

Malignant Glaucoma

J. N. Evans (MEDICAL TIMES AND LONG ISLAND MEDICAL JOURNAL, 59:422, December, 1931) reports a case of malignant glaucoma in a woman, forty-one years of age, developing after "a stroke." The patient had had high blood pressure for some time. The intra-ocular pressure was high, but fluctuating, being higher in the morning than at night, as a rule, but occasionally showing the reverse. The blood pressure showed similar fluctuations. The patient gave a history of eight pregnancies with six miscarriages and two living children; the blood Wassermann was negative. An injections of salvarsan was followed by a marked and rapid drop in the intra-ocular pressure and also in the blood pressure. Salvarsan was the only agent that caused such a marked drop in the intra-ocular pressure. An intravenous injection of a hypertonic salt solution did not cause a drop in the intra-ocular pressure. Since the case was seen, another apparently non-syphilitic case of acute glaucoma was given a single injection of salvarsan which caused a very marked drop in the intra-ocular pressure. The author suggests that the effects of salvarsan should be studied in a series of various types of glaucoma to determine its value in this condition.

Streptococci Associated with Epidemic Septic Sore Throat; Their Relationship to Streptococci Associated with Scarlet Fever

The failure to demonstrate by present methods specific differences between the hemolytic streptococci associated with the different streptococcus infections, is strikingly illustrated by the bacteriological findings in the epidemics of septic sore throat which occurred in Millbrook, Kingston and Clyde, N. Y., in 1930. The results of the bacteriological investigation of these three epidemics carried on at the Division of Laboratories in Albany are reported in an article, "Streptococci Associated with Epidemic Septic Sore Throat; Their Relationship to Streptococci Associated with Scarlet Fever" by Mary W. Wheeler, published in the May issue of the *Journal of Preventive Medicine*. The organisms isolated were studied particularly with respect to the presence of capsules characteristic of Streptococcus epidemicus—the type of streptococci generally considered as associated only with epidemic septic sore threat—and to the neutralization of toxin with antistreptococcus sera.

In the Millbrook epidemic the streptococcus strains isolated from the throats of patients and from the milk were identical in all their reactions but when first isolated did not possess the cultural characteristics of *Streptococcus epidemicus*. They produced toxins of low potency neutralized by monovalent antistreptococcus sera produced with two different strains of streptococci from typical cases of scarlet fever and with a strain from a case of epidemic septic sore throat.

In the Kingston outbreak typical *Streptococcus epidemicus* strains identical in all their reactions, were isolated from the throats of persons on the dairy farm, from the milk of one cow, from the throats of patients with septic sore throat and also from the throats of scarlet fever patients. The blood serum of the cow through whose milk the organisms were probably disseminated was found to have a definite neutralizing activity for the toxins of the streptococci from septic sore throat and scarlet fever patients and from the persons on the farm, as well as for the toxin of the strain from the milk. On the other hand, this serum possessed no demonstrable neutralizing activity for the toxins of the Millbrook strains, and the antistreptococcus sera which neutralized the toxins of the Millbrook strains possessed no demonstrable activity for the toxins of the Kingston strains.

The streptococci isolated from the throats of patients in Clyde did not have the cultural characteristics of *Streptococcus epidemicus* and no toxin was demonstrated in broth culture filtrates.

Since this article was published the laboratory has received from Dr. R. S. Breed of the New York State Agricultural Experiment Station a culture of hemolytic streptococcus isolated at its laboratory during the investigation of the Clyde outbreak from a specimen from a cow. This strain corresponded in its morphological, cultural and biochemical reactions with strains isolated from throat cultures from patients in Clyde. According to the tests for toxin production, however, the strains from the cow produced a potent toxin almost completely neutralized under the conditions of the test by an antistreptococcus serum produced with a standard "scarlet fever" strain of streptococcus. Since no toxin had been demonstrated in the strains previously studied from the patients in Clyde, a number of other strains from different patients were tested. One strain was encountered which was slightly toxic. The toxin of this strain was also neutralized by the "scarlet fever" antistreptococcus serum.—*Health News.*

Accessory Nasal Sinus Infection in Suspected Pulmonary Tuberculosis

In making roentgenologic examinations of many chests, one finds evidence of chronic infection that is nontuberculous in origin. Most of the patients who are referred for roentgen examination of the lungs are sent for one purpose; namely, to determine whether or not pulmonary tuberculosis is present and to what extent. Formerly, the roentgenologist was content with his diagnosis when he could rule out a pulmonary tuberculous infection. Now, in order to be of greater service to the referring physician and to the patient, he must try to find the origin of the chronic infection that is causing the lung symptoms. The lung changes may represent chronic bronchitis, bronchial asthma, or bronchiectasis. The origin may be in the upper respiratory tract, especially the accessory sinuses.—John D. Osmond, M.D., *J. A. M. A.*, Dec. 12, 1931.

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Prenatal Care Obligations

Close acquaintance with this work at first hand shows conclusively that it demands the most assiduous fostering on the part of all the interests concerned.

There are special and compelling reasons for this attitude. To cite the medical and socail reasons:

1. Precious lives are in peculiar jeopardy in these cases. Fetal and maternal mortality and maternal invalidism rise in proportion to neglect and failure to recognize certain conditions early in pregnancy.

2. In so far as maternal mortality and invalidism spell complete or partial loss of mothers, families and society itself pay atrocious penalties. From obstetric catastrophes flow both dependency and crime.

3. Ideal care gives a well mother, a well child, and a short stay in the hospital.

4. Neglect gives death of child, death or injury to mother, long stay in hospital, a motherless family, invalidism of mother, dependent children, juvenile crime.

5. 1 in 30 pregnancies is a breech case, a condition giving a heavy fetal mortality unless the condition is detected and corrected.

6. 1 in 200 pregnancies is a transverse case, failure to recognize which means death of the mother and child through rupture of the uterus.

7. 1 in 400 pregnancies is a posterior face, with its tragic results if not properly handled.

8. The contracted pelves have to be detected, classified and treated accordingly, else obstetric disaster results.

9. 1 in 100 pregnancies results in eclampsia, which is preventable.

10. 1 in 4 who has eclampsia dies, which means that one in every 400 patients is taken from her family unless this condition is prevented. Such a death is definitely preventable.

11. The cardiac cases, particularly mitral stenosis, must be carried up to and through delivery by a high degree of care and skill.

Toxic Neuritis Due to Jamaica Ginger

Last year there were many cases of so-called "Jake paralysis" due to Jamaica Ginger. These pathetic victims with paralysis of the hands and feet seemed at that time doomed to permanent paralysis. The nature of the toxemia was not well understood and no special treatment seemed available. Sodium thiosulphate was recommended by some for intravenous injections, together with massage, exercise, sunlight, diet, hydrotherapy and electrotherapy. If benefit was observed the treatment was thought to have been effective.

A year has passed since that time and many of these victims have improved so much that they have been able to work again. To be sure they do not walk as they should but they are able to walk unassisted. Some have not been so fortunate but these are now able to feed themselves.

The writer has had an opportunity to observe several cases. At first some of these were hospitalized and kept in bed for several weeks. Later they were allowed to return home. No special treatment was given. Practically all of this group have been able to walk again and several men are at work. It is interesting to note that this improvement has taken place without any special therapy.

M. W. T.

Father and Son

With the retirement of Justice Oliver Wendell Holmes from the Supreme Court at ninety-one we lose a beloved figure from that group of worthies and a clear, practical mind which never has been dimmed.

Many a time while studying his genial face, as he sat on the bench, we have recalled his father, our teacher of anatomy and friend. We used to think that the Doctor was old at seventy, but he lived ten years longer to reach a graceful old age like his honored son. Alas! few, if any, of the Harvard medical class of 1881 remain. "All are gone, the old familiar faces." It is fitting in this material age to recall that "there were giants in those days"—men who lived in a higher atmosphere than we do now—who needed no code of ethics to govern their relations with their colleagues.

But, we must not forget that Doctor Holmes never was a practicing physician. He tells in his inimitable way how he pulled his sign down in a panic after his first professional call. Marion Sims did the same thing when he lost his first patient, but fortunately for the world he fished it out of the well and put it up again.

We are indeed surrounded by a great cloud of witnesses, living as well as dead, those to whom money is not the only object for which to strive. In many a lonely laboratory the research workers, real princes of the profession, labor untiringly as our old teacher did, not for present gain, but for the good of generations yet to come.

H. C. C.

The Zurich Birth Control Conference

We recommend a reading of the Proceedings of the Seventh International Birth Control Conference as the equivalent of an evening's entertainment such as might be afforded by Alice in Wonderland, the Trial of Mr. Pickwick, or the score of any Gilbert and Sullivan opera.

The program was voluminous, but nobody cited the truth that birth control, reinforced by abortion, is nothing but a clumsy and stupid palliative, charged with harmful potentialities, against conditions indubitably due to the concentration of wealth in the hands of the few and the miserable exigencies of a ruthless machine age. Fundamental considerations have no charm for shallow, impatient, high-pressure promoters, witless instruments of a social order intent upon heartless objectives.

And everybody avoided the inexorable logic of Herbert Aptekar, which properly insists that distinctions between birth control and abortion are matters of casuistry and that manner of procedure is the only real difference between these two usages, since their end results are identical, as are the purposes for which they are employed (*Infanticide, Abortion and Contraception*, 1931).

Indeed, Van de Velde would have liked to suppress altogether the discussion regarding the technique of abortion, and frankly expressed his annoyance about it. The discussion took place and seemingly aroused a greater interest than the other events of the Conference. This, it seems to us, was quite as it should have been.

The Victorian inhibitions of many of these professional propagandists still prove hampering. Puritanism still grasps them firmly by their coat tails. It is a sincere enough attitude in many, not prompted by tactical considerations. Yet it seems insufferably sentimental and even childish in such a connection. The Russians, of course, indulge in no such nonsense. They have attained a marvelous degree of skill in abortion work. Thus, hundreds of thousands of women are aborted by a method which takes an average of from two to three minutes in the first month, and four minutes in the second and third month. About 90,000 women were aborted in just one of the six clinics in Moscow last year. The educational requirement is that a doctor must have performed 100 abortions.

There was, of course, an exhibition of all the barbarous devices employed for contraceptive purposes which aroused the disgust of at least one delegate, who felt that he and his colleagues were still in the Middle Ages of their "art."

With what pity will the physician of the future, living under an equitable social order and using exact biological methods of control for legitimate medical reasons, view, in museums, the wretched contraceptive armamentaria of his groping professional forebears. A pathetic chapter in the history of humanity will have been written off.

Let it be said to the credit of some of the delegates that they protested vigorously against the employment of intrauterine rings of silver (left in for one or two years) to prevent conception, or, as one of the speakers charged, to induce early abortions, as well as against the induction of abortion by Heiser's iodine paste injected into the uterus.

The obvious likelihood that silver rings would tend, by their chronic irritation, to favor uterine cancer in those predisposed, was stressed by several of the speakers. Two naive arguments against such an attitude were offered. Thus, Dr. Norman Haire, of London, said that since the ring-wearing woman goes to a gynecologist for a careful examination once a year at least, the first sign of any pre-cancerous condition will insure appropriate treatment "which may be successful in preventing the progress of the trouble." Dr. Ernst Graefenberg, the originator of the ring method, thought that the possibility of cancer was "remote because the mucous membrane in which a growth might occur is thrown off every month, and replaced by a new one."

Among the strange and ingenious inventions presented for the consideration of the Conference was a form of pessary combining *four* mechanical protective devices with *two* chemical preventives. One of these mechanical protective devices is *a trap for the sperms*. They are ambushed in the cuff-like rim which forms the trap and then raked with chemical ammunition. The brilliant inventor insists that the sperms haven't a Chinaman's chance, but we would bet heavily on them. We are incorrigibly skeptical about 100 per cent. contraceptives.

Dr. Fernand Mascaux stated that he had worked for the most part in proletarian circles in Belgium, and had come to the conclusion that in such circumstances it was necessary to employ methods which were simple, practical and cheap; moreover, the woman must be able to apply the method herself. It is therefore necessary to educate the woman in sexual hygiene, and she must be able to find her cervix herself in order to succeed. She must put herself into a crouching position to do this, for then the uterus descends and it is easier to find it. "This is very important, because the woman must be able to do what is necessary without the aid of the husband, *and even in his absence*" (italics ours). This teaches that we must school our patients in resourcefulness.

Dr. Norman Haire, in his paper on the silver ring, made the following remarks: "In order to avoid the possibility of introducing a ring into the uterus of a woman who is already pregnant, and either does not know it or conceals it from the doctor, I now insist on inserting the ring actually during the menstrual period. As a matter of fact, that has another advantage. If the ring is put in on the first or second day of the period, the bleeding from the insertion of the ring coincides with the ordinary period, and the woman does not have two periods of bleeding in that month, but only one. The only exception I make is in the case of virgins who come to be deflowered and fitted with a ring, either immediately before or immediately after marriage."

It has been estimated that contraceptive information and equipment could be marketed by modern methods to each million of American families at an annual cost to them of $10,000,000. We have a vision of a future Birth Control Finance Corporation, with stocks quoted on the Exchange and, of course, paying good dividends. We shall yet see the condom market cornered and the pessary output monopolized. There are millions in it.

Medical Charity

While we are waiting for the final report on "The Cost of Medical Care" and wondering why the large inquiry funds are not devoted directly to the care of the indigent patient, we read with amusement the various plans and theories for helping the "poor and proud" in clinics and hospitals.

"Words," said the melancholy Dane when asked what course of reading he was pursuing. *Vox, et præterea nihil*—and other quotations. Bless my soul, we used to give half of our time to patients who never paid us a cent, and we could mention dozens of prominent specialists and general practitioners who are doing so now, but their good deeds never are trumpeted.

We have reason to be proud of our profession at this time of financial stringency. We are only known to

fame by our obituaries and we can't be here to read them. We may be regarded by the public as hard-boiled but our hearts must be quite a bit bigger than our judges suppose.

H. C. C.

Good Health in Hard Times

The year 1931 presented a paradox curious enough to confound a Chesterton. Unprecedented privations seemed actually to lower the morbidity and mortality rates. At the beginning of the year there was much influenza and pneumonia, but by April the health picture had changed and the rest of 1931 made a remarkably good record.

Nevertheless, the continuation of hard times throughout 1932 would result very differently, and public health experts are cautioning us against any relaxation of preventive activities. Those charged with a special interest in tuberculosis are particularly apprehensive.

Miscellany

A Litany

From laws whereby Congress presumes to usurp medical practice
From complicated fractures involving the elbow joint
From posterior-face positions in obstetric practice
From lay critics of the T. Swann Harding order
From quinine reactions in intravenous and hemorrhoidal work
From "preliminary announcements" of cancer cures
From concealed and postoperative hemorrhages
From the error of confusing uremia with hysteria
From mistaking early pernicious anemia for "intestinal indigestion"
From failure to distinguish early encephalitis from malaise
And from proponents of State medicine
GOOD LORD DELIVER US!

Lines Written by Ross at the Time of his Anopheles Discoveries

This day relenting, God
Hath placed within my hand
A wondrous thing; and God
Be praised. At His command,

Seeking His secret deeds.
With tears, and toiling breath,
I find thy cunning seeds,
O million-murdering Death.

I know this little thing
A myriad men will save.
O Death, where is thy sting?
Thy victory, O Grave!

—Ronald Ross.

Sterility

Until recently the routine treatment of sterility has been dilatation, curettage, and correction of uterine displacement. Some of this treatment has probably done more harm than good. We now realise that sterility depends on a combination of factors affecting both husband and wife. In every case we have to consider what local and constitutional abnormality may be responsible. Very often there is more than one.

It takes two to make a baby. Even conservative investigators say that in 20 per cent. of cases of sterility the male is to blame, and before doing anything to the wife—unless there is some obvious error—one should make a point of seeing the husband. After he has had a physical overhaul it will be necessary to examine the semen. Probably a condom specimen is best for this purpose, but massage of the prostate is effective. The normal number of spermatozoa is about 100,000,000 per c.cm. and a count of 60,000,000 or less indicates relative infertility. This would not matter much if the fertility of the wife was high, but where it is low in both partners there is likelihood of sterility.

Any septic focus or other cause of debility may diminish the number of sperms; so also will a diet low in protein and insufficient in vitamins. Endocrine disorders are of great importance and even a small amount of hypothyroidism may produce sterility. The same is true of pituitary defects. Speaking generally, we may do a lot of good by attending to the husband's general health and by insisting on exercise and a generous high-protein diet.

The old idea was that most cases of sterility in the female were due to narrowing of the cervical canal—the "pinhole os." During the last few years, however, we have come to understand the importance of blockage of the Falliopian tubes. This may be complete or it may only be a "stickiness" of the tubes in which the lumen is closed by delicate adhesions between folds of mucosa.

We now have means of testing the patency of the tubes. The first apparatus for this purpose was the one devised by the American, Rubin, who passes compressed air into the peritoneal cavity through the uterus. The sound of the gas escaping from the fimbrated extremities can be heard with a stethoscope, though it is doubtful whether we can say on which side it is passing. But this gas test, though a great advance, is not altogether satisfactory. It is mortifying to get a negative result on one occasion and a positive on another, and such errors are readily caused by stickiness or kinking of the tube, the latter due perhaps to retroflexion. Moreover, although Rubin's method shows blockage it does not show where it is, and this matters a great deal if there is any question of going to operate. Surgery is almost useless unless the block is in the outer end of the tube.

The introduction of lipiodol has now made things much easier and it has become a simple matter to test the patency of the tube. An anæsthetic is not necessary; indeed, it is undesirable because it might mask pain. The patient receives one-sixth of a grain of morphia half an hour beforehand. She is placed in the lithotomy position and some 10 c.cm. of lipiodol are passed into the uterus through a uterine catheter to which a 20 c.cm. syringe is attached. A radiogram is then taken and if the tubes are patent the lipiodol will be seen running into the peritoneal cavity. Another radiogram may be needed on the next day.

This method shows whether the tube is open or closed, and, if it is closed, *where* it is closed. It therefore indicates whether operation is needed and whether it has a reasonable chance of success. Before making such an examination, however, one must be sure that there is no active inflammation of the tubes; for cases of peritonitis are not unknown where this precaution is ignored. Apart from this lipiodol is quite innocuous, and indeed a surprisingly large number of pregnancies have followed its use. This suggests that it has therapeutic value.

The constitutional causes of sterility in women resemble those in the male. All women who come to the out-patient department at the London Hospital complaining of sterility are put on a diet; they are told to eat the best English meat and supplement their meals with cod-liver oil. In the female, however, the most important development of late years has been our new knowledge of the ovarian hormones. The ovaries, it is now clear, cannot act without stimulation by the anterior pituitary gland. A great many sterile women are of the fat and flabby type with a great deal of hair, often with a male distribution. Menstruation has begun late and is probably scanty. If these women are given active preparations of thyroid and anterior pituitary extract the results are often miraculous. Pregnancy sometimes begins almost at once. I usually give half a grain of desiccated thyroid every night for one month and raise the dose by a half a grain each month until the patients are taking two grains each night. They have a suitable dose of an active pituitary extract every night and morning.

In conclusion I may mention a type of sterility where absence of children is really due to frequent early abortion. Normally ovulation takes place about the middle of the menstrual cycle and thereafter the survival of the fertilised ovum depends on its being embedded satisfactorily in the decidua. The presence of suitable decidua depends in turn on the development of the corpus luteum. The kind of case I have in mind is one in which a woman goes perhaps 14 days over her usual time and then has rather a heavy period. I believe this sometimes represents a very early abortion due to failure in the function of the corpus luteum. If in such a case an extract of corpus luteum is given during the second half of the menstrual cycle, it is quite likely that the ovum will survive and pregnancy will go on to term.—Holland, *Lancet*, Oct. 24, 1931.

Nursing the Doctor's Hospital Patient

The chief problems the doctor faces in obtaining proper nursing care for his hospital patient arise from the fact that doctors, and patients, often feel that the hospital nursing service is not adequate for the patient's needs, though in many instances the type and severity of the case do not seem to justify the expense of a special nurse.

Understaffing of nursing departments, and dependence on student nurses for the greater part of the bedside care given, are two major reasons given for dissatisfaction with hospital nursing service.

This is shown in several studies made by the Committee on the Grading of Nursing Schools, as part of its investigation of how to provide good nursing care at a price within the reach of the average person.

When patients and doctors were asked why the special nurse was employed for hospital cases, the largest single reason given, naturally, was the need for her thorough, concentrated care. The reports also indicate that the hospital "special" is usually easily obtained, and is for the most part satisfactory.

On the other hand, the 4,000 physicians questioned by the Grading Committee said they felt that about two out of five of their patients employing specials were not extremely serious cases, and could have been cared for by an *adequate* hospital floor nursing service. More than one-fifth of the patients answering questionnaires, of those who employed special nurses in hospitals, said they did so because they felt the general nursing service offered by the institutions would not be adequate.

This would seem to indicate that, were a general nursing service of adequate quality and quantity provided by all hospitals, the often heavy expense of the special might be done away with in a large number of cases.

That this problem of adequate, inexpensive nursing in the nospital concerns a large group of patients and doctors is seen from the study on hospitalization.

The physicians, including general practitioners and specialists, together reported that 50 per cent of their most recent cases were hospital patients, and an additional nine per cent were in both hospital and home. Of the 1,892 patients, 43 per cent were in the hospital, and an additional 16 per cent in both hospital and home.

It is generally recognized that more and more people are going to hospitals when they are sick. Physicians in many branches of medicine increasingly advise hospitalization for their patients. Not only in the large cities today is hospital care an important factor in the treatment of the sick. Except in towns of under 10,000 population, cities of all sizes showed an equal degree of hospitalization of patients. On the whole, it seems to be highest in the Western States, and lowest in the North Atlantic States.

Somewhere in the neighborhood of 2,000 hospitals at present operate nursing schools as part of their nursing departments. When the bedside care given patients in 1,338 of these was studied on a typical day, it was seen that only 18 per cent was given by graduate nurses. Fully 64 per cent, or more than three and one-half times that amount, was given by the student nurses, of whom there are now about 83,000 in the training schools. The rest of the care was given by maids, orderlies and attendants.

As yet, there are, generally speaking, comparatively few graduate floor duty nurses on the nursing staffs of the hospitals. The following table shows the numbers of both graduate head nurses and floor nurses employed by typical hospitals of the various sizes (hospitals having training schools):

Patients	*R. N. floor and head nurses*
90-99	2
140-149	5
190-199	8
240-249	9
300-349	9
400-449	10

One hospital with 171 student nurses had two graduate nurses in the entire hospital (including the administrative and teaching staff); another with 200 students had three graduate nurses; there were three with 80, 72, and 61 student nurses respectively, that employed no graduate nurses at all, except the R. N. Superintendent of Nurses.

As to the size of nursing staffs, including both student and graduate nurses, Dr. May Ayres Burgess, director of the work of the Grading Committee, states that, so great are the differences even between hospitals of the same size, that it is very diffiing a given rate per day for hospitalization and nursing that they cult to give any general statement as to what is the generally accepted policy as to the ratio of nurses and patients.

In 51 hospitals having 90-99 patients, the size of the nursing staff, including all graduate and student nurses, ranged from 22 to 74; in 17 hospitals, with from 190-199 patients, one had only 14 nurses on duty the day studied, while another had 117; in 8 hospitals with from 450 to 499 patients, the size of the nursing staffs ranged from 24 to 219 nurses!

The comments of physicians and patients amply showed their keen belief that both the insufficient size of nursing staffs, and the use of student nurses to carry the major nursing load are serious drawbacks to the proper care and recovery of the hospital sick, and major reasons for employing special nurses who otherwise would not be needed.

Typical comments from doctors were:

"All hospitals in the town which I attend have an insufficient number of nurses, and most of them lack a graduate nurse in charge of the floor."

"The local hospitals cannot give really serious cases the attention necessary with regular hospital nurses. A patient suffering or uncomfortable must hire a special."

"It is most important, to my way of thinking, that when patients enter a hospital with the understanding that they are payreceive efficient and adequate nursing. Few patients can afford $6.00 a day for room, and $12.00 a day for nursing, besides laboratory fees and board for nurses charged extra. Consequently most patients leave hospitals one to many weeks before they should."

"The chief difficulty we find is the care of the patients in the hospital wards, and at least part of the difficulty I feel is due to youth and lack of experience of the head nurses and their lack of control of the pupile nurses under them."

"I preach to the hospital authorities that nursing must be so good that only exceptional cases will require specials."

Typical comments from patients were:

"I do not consider the general care in large hospitals adequate."

"If one is really sick or needs much attention the regular nurse service given in hospitals where the work is done by student nurses does not amount to much, as the girls have entirly too much to do, and do not have enough supervision by really capable nurses."

"Patients are sometimes neglected when depending on general nurses because in some cases the nurses are given too many to look after."

"I have come to recognize nurses as a class as the most self-sacrificing, considerate body of people I know. But I have yet to see one on duty who wasn't in a hurry."

"I know it would have been a great relief to our night nurse if she had some help. She had about 21 mothers and 24 babies to take care of. She told us in particular of having gone to bed at 10 A.M., couldn't sleep because they were house-cleaning, and then getting up at 2 P.M. for class until 6 P.M. She certainly was almost run off her feet."

"They were the best nurses, but overworked."

"They had inexperienced nurses on the floor to give us our baths, etc., who were only in training a week or two."

A major remedy for understaffed and inadequate nursing service in the hospitals is seen to be the addition of accredited graduate nurses for general floor duty and head nurse service.

This would mean that patients would be in the hands of experienced women, rather than in the charge of young and often inexperienced student nurses; that the bedside care given by both students and graduates would be more adequately supervised; and that the greater numbers of nurses available for bedside care would permit better attention to each patient.

Hospitals, in some cases, are studying the problem from the point of view of the cost of a larger graduate staff; the ease with which capable accredited graduates may be secured; and the organization of a smooth-running graduate nurse staff. The Grading Committee, to aid in this study, is planning help in making out cost schedules and budgets.

Some smaller hospitals have already discontinued their training schools because they found their patients were much better pleased with the care given by a graduate nurse staff, and that the change meant little or no additional expense to the hospital. Some, indeed, found that a graduate staff would actually be less expensive than a good training school. In some instances, the added expense of a graduate staff is distributed among all the patients, at a slightly raised room charge. This charge is more than made up for to the patients by the fact that many of them can save the cost of the special nurse, and are sure, at the same time, of obtaining good nursing service.

Intrauterine Infection

According to Blair (*Canad. M. A. J.*, Nov. 1931) scarlet fever antitoxin has apparently a place in the fight against intrauterine infection. In incomplete abortion, whether uninfected or infected, a conservative treatment is followed throughout. The cervix is carefully inspected as sometimes fragments of the products of gestation may lie, completely separated from the uterine wall, in the cervix, or even in the vagina. These can readily be removed with sponge forceps but if left may or may not be excelled.

MEDICAL BOOK NEWS

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All books for review and communications concerning Book News should be addressed to the Editor of this department at 1313 Bedford Avenue, Brooklyn, New York.

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REVIEWS

Allergy and Applied Immunology

ALLERGY AND APPLIED IMMUNOLOGY. A Handbook for physician and Patient on Asthma, Hay Fever, Urticaria, Eczema, Migraine and Kindred Manifestations of Allergy. By Warren T. Vaughan, M.D. St. Louis, The C. V. Mosby Company, 1931. 389 pages, illustrated. 8vo. Cloth, $4.50.

This volume was written as a handbook for the physician and patient. It establishes a better cooperation between the doctor and the victim of allergic diseases such as hay fever, asthma, hives, eczema, angioneurotic edema, allergic migraine, colitis and food idiosyncrasy.

A complex subject has been covered in a simple and yet complete manner. The reading is very easy and interesting, since highly technical terms have been avoided.

The reader is aided by means of many illustrations of various plants and pollens. There are also a number of charts which indicate the prevalence of pollen in the different sections of the United States.

An excellent contribution to the subject is the study of food-group sensitization as demonstrated by several charts.

The book which is composed of 30 chapters is divided into 7 parts with the following headings: Allergy, Allergens, Diagnosis, Therapy, Prognosis, Manifestations of Allergy, and Applied Immunology.

For those who desire to seek more detailed information, 287 references of the most recent developments on the various phases of allergy are listed at the end of the book.

MATTHEW BRUNNER.

Gonorrhea in the Male and Female

GONORRHEA IN THE MALE AND FEMALE. A Book for Practitioners. By P. S. Pelouze, M.D. Second edition. Philadelphia and London, W. B. Saunders Company, 1931. 440 pages, illustrated. 8vo. Cloth, $5.50.

This second edition reveals in attractive, narrative form even more fully than the first, the facile pen and investigative genius of the author. Much of time-worn and thread-bare theories is discarded. For example, the alleged effects of heat and cold on the gonococcus, the effects of strenuous antiseptics, as well as many other false ideas. In his avoidance of the beaten paths of academic works he shows his originality, progressive and creative ability.

While the book is intended for practitioners, there is much sane and sound advice which should be read by every Urologist or Venereologist. It is not the specified use of certain procedure and armamentaria which count, but the very way these are carried out in individual instances. For this reason it is obvious that seasoned judgment can only be acquired by special trained, practical experience. A practitioner can no more regard himself capable of management without special training, than he can expect to practice the art of surgery upon the basis of theoretical and text-book knowledge.

Part II of the work is an interesting presentation of an outlined discussion of 48 case histories which indicate the great variety of individual problems and exceptions. These reports are a tribute to the misunderstandings, mismanagement or indifference of the physician, or to the fault of the patient himself.

Part III is devoted rather briefly to a discussion of gonorrhea in the female.

AUGUSTUS HARRIS.

Modern Medical Treatment

MODERN MEDICAL TREATMENT. By E. Bellingham-Smith, M.D., F.R.C.P. & Anthony Feiling, M.D., F.R.C.P. Two volumes. New York, William Wood and Company, 1931. 1,406 pages, illustrated 8vo. Cloth, $12.00.

In these two volumes of about 700 pages each, the general field of medical treatment is covered in a way useful for the practitioner who treats many types of disease. Diseases of the Nervous System are considered in Section one. Then follow sections on the Heart, Blood Vessels, Blood, Endocrine Glands, Respiratory System and Kidneys, completing Volume 1. The second volume considers Diseases of the Alimentary Canal, Liver, Disorders of Metabolism, Intoxications, Diseases of the Joints and Muscles and Infectious Diseases.

It will be found a convenient reference book combining the older methods and the newer treatment by means of sera, vaccines, dietary and physical measures.

WILLIAM E. MCCOLLUM.

The Mental Defective

THE MENTAL DEFECTIVE. A Problem in Social Inefficiency. By Richard J. A. Berry, M.D., F.R.C.S. and R. G. Gordon, M.D., D.Sc. New York, McGraw-Hill Book Company, Inc., 1931. 225 pages, illustrated, 8vo. Cloth, $2.50.

An excellent book on a problem of increasing economic and special significance by two well qualified observers. The trend of this book may be grasped from the following quotations.

"In America—'it is stated that no less than $1,100,000,000 are spent annually on various social services for the inefficient and only $600,000,000 on the efficient.'

"In England, 93 pounds per annum are spent on the inefficient child and only 12 pounds per annum on the efficient one.

"There is the inherent tendency of an insufficiently checked and increasing incidence of mental defect to turn an A 1 into a C 3 nation.

"Defectives are insane, but unsane. They are children with the bodies of adults.—That they are lacking in brains is not their fault but that of fate, and of a community which is so ignorant of the most elementary laws of heredity that it blames and ridicules the child for the fault of its own failures in breeding."

The authors make an exhaustive survey of their problem. The book is entertaining, stimulating and instructive.

H. R. MERWARTH.

Osler and Other Papers

OSLER AND OTHER PAPERS. By William Sydney Thayer, M.D., LL.D. Baltimore, The Johns Hopkins Press, 1931. 388 pages. 8vo. Cloth $3.50.

A delightful collection of addresses and papers by Professor Thayer. As one would expect—and hope, Thayer is at his best when discussing his beloved Osler, who, though not long dead, is fast becoming a tradition in medicine. A humorous poem and a beautiful sonnet, both dedicated to Welch, are included. A scholarly volume, a credit to the Johns Hopkins group. C. A. GORDON.

Diabetes

DIABETES, ITS CONTROL BY THE INDIVIDUAL AND THE STATE. By Elliott P. Joslin, M.D. Cambridge. Harvard University Press, 1931. 70 pages, illustrated. 16mo Cloth, $1.00. (Harvard Health Talks, 18).

The author, the recognized world authority on diabetes, presents a concise picture of the dangers of diabetes, the importance of knowledge of this condition to the physicians and to the non-medical individual, and the necessity for cooperation by diet and living of those afflicted. He gives a short, historical review of the disease, shows its increase, explains the value of the use of insulin, showing the improvement in the condition, and future prospects of the diabetic at the present time. The author stresses the importance of prevention to the community and urges a campaign for its prevention. This short volume is written in the charming, instructive, clear, readable style of the author and it will profit anyone to study this book. HENRY M. MOSES.

Living the Liver Diet

LIVING THE LIVER DIET. By Elmer A. Miner, M.D. St. Louis, The C. V. Mosby Company, 1931. 106 pages. 12mo Cloth, $1.50.

This small volume of one hundred pages was written by a physician having pernicious anemia who has followed the diet advised by Minot and Murphy. He has benefitted thereby, and wishes to have others benefit. The book is written for physician and patient. It emphasizes the need of cooperation to obtain results. The various foods used in this diet are explained and detailed recipes for the preparation of all of the foods are given. The work shows careful, thoughtful preparation of the foods, and is a volume which would be useful to one needing such a book. HENRY M. MOSES.

One Hour of Medical History

ONE HOUR OF MEDICAL HISTORY. Compiled by Benjamin Spector, M.D. Boston, The Beacon Press, Inc., 1931. 88 pages, illustrated. 12mo Cloth, $1.00.

In October, 1930, a pageant featuring the outstanding figures in medical history was staged by Tufts College Medical School as part of the annual reception to the entering class. This little volume is the "book of the opera," so to speak, recording the five-minute addresses of Hippocrates, *et al.* The talks were preceded by a geographical introduction, and during the interludes comments were made by the "producer" which served to maintain the unity of thought of the pageant by painting in the historical backgrounds intervening between the dramatis personæ. The volume ends with a demonstration of the basic texts of the pageant by Mr. James F. Ballard, Director of the Boston Medical Library.

Medical pageants appear to have begun in 1925, in connection with the Health Exhibition held at Boston. Since then, in addition to the pageant described in the work under review and two repetitions of it before the Boston Medical Club and the Essex South District Medical Society, there have been pageants by the Fulton County, Georgia, Medical Society and by the Mayo Clinic.

Dramatization, music and the talkies should aid medical pageantry mightily. Of course, these would call for a high order of talent—which we probably possess. Alas! they also call for much cash.

On the whole, the five-minute talks of the characters are very good, although Hippocrates' ease in the endocrine and bacterial fields is a bit amazing.

This effort is cultural in aim if it is anything, but culture becomes ataxic and falls down with a resounding thud when Dr. Spector, the Director and "producer" (Associate Professor of Anatomy), in his five-minute talk on Amos Twitchell, speaks of "preventative" medicine (p. 69). ARTHUR C. JACOBSON.

Know Your Child

KNOW YOUR CHILD. By Louis Monash. New York, McGraw-Hill Book Company, Inc., 1931. 246 pages. 12mo Cloth, $2.00.

This book is another addition to the growing literature on the relationship of the child to his immediate environment, namely parent, teacher and companion. There are chapters devoted to the child in relation to the schoolroom and the playground. Case reports are used to illustrated various types of parental reactions to their children. The book is essentially devoted to the school child, with his fears, quarrels, food habits, hobbies, successes and failures. In the latter chapters the pre-school child, the pre-adolescent and adolescent are discussed. The last chapter of the book is headed, "Talks to Children" and in it are a series of talks given at pupil assemblies.

This book will be of value to parents and particularly teachers to aid them in understanding the child so that a feeling of confidence and spirit of good fellowship may develop between them. STANLEY S. LAMM.

An Entirely Different Woman

AN ENTIRELY DIFFERENT WOMAN. By Georg Fröschel. Translated by Maida C. Darnton. New York, Brentano's Inc., 1931. 280 pages. 12mo Cloth, $2.00.

The author of this unique story creates an interesting question as to the possible changes in one's personality after receiving a transfusion of blood. His main character is that of a woman of high ideals and noble love for her husband and child who is thus completely changed following such a transfusion from a criminal donor, as a result of an airplane accident. So changed was she that even her child recoiled from her. Her tastes suddenly became unrefined, her passions base, and she regarded her husband a complete stranger—thinking only of him whose "blood ran in her veins." So strong a personality influence was exerted upon her by this donor's blood that she gave up everything for this criminal's sake regardless of consequences or public opinion, and even to the last, when he committed suicide, unknown to her, she instinctively followed suit. EMANUEL KRIMSKY.

The Practice of Contraception

THE PRACTICE OF CONTRACEPTION. An International Symposium and Survey. Edited by Margaret Sanger and Hannah M. Stone, M.D. Baltimore, Williams & Wilkins Company, 1931. 316 pages, illustrated. 8vo. Cloth, $4.00.

This symposium on contraception lists thirty-eight contributors besides notations from discussions by a hundred or more physicians attending the recent International Birth Control Conference at Zurich. Like other symposia it records many discordant facts about the practice of contraception based on the varied professional experiences of these contributors. Whatever one may have to say for or against such a presentation we are left with the impression that Birth Control has earned for itself a firm foothold.

One contributor assures us that the occlusive cervical and vaginal pessaries are at present the most dependable agents in contraception. Another tells us in no less certain terms that cotton wool soaked in vinegar and used as a vaginal plug before coitus is effective. Still another doctor revives the discarded intrauterine silver rings which require introduction by the physician, and he prophetically assures us that "cancer will eventually be found to be less common among ring-wearing women." And so we may continue at length discussing these incongruous presentations which remind us more of a disarmament conference rather than an attempt to arrive at scientific fact.

After reading this book the patient will for safety sake continue to rely on his old standby. If this conference could have agreed on some simple contraceptive this three-hundred page book would probably never have gone to print. EMANUEL KRIMSKY.

Courts and Doctors

COURTS AND DOCTORS. By Lloyd Paul Stryker. New York, The Macmillan Company, 1932. 236 pages. 12mo Cloth, $2.00.

The author of this book who has been the general counsel for the Medical Society for the State of New York for many years has presented a book which has finally filled an important need. The book is written in such a manner that the medical profession can read and understand. It is free from the usual technical language employed in legal books thus making it of great value to the non-legally trained readers.

The book includes within its covers the following discussions, to-wit: The relationship of patient and physician; Actions for mal-practice; Defenses to actions for mal-practice; Expert testimony; The doctor on the witness stand and The doctor and the criminal law.

The book ought to find itself on the shelves of all practicing physicians. Clearly expressed legal principles amply based upon actual legal cases and authorities make it possible for the reader to quickly understand his rights.—GEORGE I. SWETLOW.

Health at the Gateway

HEALTH AT THE GATEWAY. Problems and International Obligations of a Seaport City. By E. W. Hope, O.B.E., M.D. Cambridge, University Press; New York, The Macmillan Company, 1931. 213 pages, illustrated. 8vo. Cloth, $5.00.

This book is very interesting reading. It gives a clear, concise history of the development of the measures and practices of a municipality to stop disease entering through its sea door. The results and benefits are outlined and suggests principles to others who may be interested in this type of work. J. J. WITTMER.

Infections of the Kidney

INFECTIONS OF THE KIDNEY. By Meredith F. Campbell, M.D., F.A.C.S. New York, Harper & Brothers, 1931. 343 pages, illustrated. 12mo Cloth, $3.00. (Harper's Medical Monographs).

This condensed monograph is written in a very practical and comprehensive manner. The work bespeaks the usual thorough and complete methods of the author. The practitioner will gain much from the work, and, perhaps, a somewhat different viewpoint concerning renal infections. The many excellent line-drawings with their clearly-stated legends present "word-pictures" which will go far in a clearer understanding of the clinical background. The word "pyelitis" as an accepted diagnosis is "taboo" excepting where cystoscopy and pyelography have excluded other lesions.

Undoubtedly a reader of this work will call for early urologic investigation of all pyuria and hematuria cases with or without other clinical symptoms. AUGUSTUS HARRIS.

Essays on Marriage

ESSAYS ON MARRIAGE. By Frederick M. Harris. New York, Association Press. 1931. 208 pages. 8vo. Cloth, $2.00.

The unstable marriage situation of modern America is here reviewed by the late Frederick Harris, who tells us in terms of psychology and critical analysis what he considers to be the underlying bases for such an upheaval. He also discusses the marriage problem in other parts of the world, as well as its varied laws and customs.

And so while he appeals to reason he has entirely overlooked

the personal element in marriage. On that account especially, many a lay reader will regard this book as lofty in the sense that the author does not get down to earth and tell us in direct terms how a marriage partnership may be happy. Nevertheless this book will find its appeal to moralists, eugenists and to such persons who wish to study this subject in a strictly impersonal manner.

EMANUEL KRIMSKY.

BOOKS RECEIVED

Books received for review are acknowledged promptly in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

CLINICAL ROENTGEN PATHOLOGY OF THORACIC LESIONS. By William H. Meyer, M.D. Philadelphia, Lea & Febiger, 1932. 273 pages, illustrated. 8vo. Cloth, $6.00.

THE PRACTICE OF CONTRACEPTION. An International Symposium and Survey. Edited by Margaret Sanger and Hannah M. Stone, M.D. Baltimore, Williams & Wilkins Company, 1931. 316 pages, illustrated. 8vo. Cloth, $4.00.

CANCER: What Everyone Should Know About It. By James A. Tobey, Dr. P. H., New York, Alfred A. Knopf, 1932. 313 pages, illustrated. 8vo. Cloth, $3.00.

PSYCHOLOGY and PSYCHIATRY in PEDIATRICS: The Problem. Report of the Subcommittee on Psychology and Psychiatry, Bronson Crothers, M.D., Chairman White House Conference on Child Health and Protection. New York, The Century Company, (c. 1932). 146 pages. 8vo. Cloth, $1.50.

BODY MECHANICS: Education and Practice. Report of the Subcommittee on Orthopedics and Body Mechanics, Robert B. Osgood, M.D., Chairman. White House Conference on Child Health and Protection. New York, The Century Company, (c. 1932). 166 pages, illustrated. 8vo. Cloth, $1.50.

SURGERY OF THE CHEST. By George F. Straub, M.D., F.A.C.S. Springfield, Charles C. Thomas, 1932. 475 pages, illustrated. 8vo. Cloth, $10.50.

THE SURGICAL CLINICS OF NORTH AMERICA. Volume 12, Number 1 (Chicago Number) February, 1932. Issued serially, one number every other month by the W. B. Saunders Company, Philadelphia and London. Per Clinic Year (6 nos.) Paper, $12.00; Cloth, $16.00.

UNINVITED GUESTS. A Short Account of the Animals Living on or in Us. By David Causey, Ph.D. New York, Alfred A. Knopf, 1932. 120 pages, illustrated. 12mo. Cloth, $2.00.

THE PRACTICAL MEDICINE SERIES. Comprising Eight Volumes on the Year's Progress in Medicine and Surgery. Series 1931. Pediatrics. Edited by Isaac A. Abt, M.D. With the Collaboration of Arthur F. Abt, M.D. Chicago, The Year Book Publishers, 1932. 509 pages, illustrated. 12mo Cloth, $2.25.

MENTAL HEALERS. Franz Anton Mesmer, Mary Baker Eddy, Sigmund Freud. By Stefan Zweig. Translated by Eden and Cedar Paul. New York, The Viking Press, 1932. 363 pages. 8vo. Cloth, $3.50.

EXERCISE AND ITS PHYSIOLOGY. By Adrian Gordon Gould, Ph.B., M.D. and Joseph A. Dye, A.B., Ph.D. New York, A. S. Barnes and Company, Inc., 1932. 434 pages, illustrated. 8vo. Cloth, $3.00.

MEDICAL MEN IN THE AMERICAN REVOLUTION. 1775-1783. By Louis C. Duncan. Carlisle Barracks, Pa., Medical Field Service School, 1931. 414 pages, illustrated. 8vo. Paper. (The Army Medical Bulletin, No. 25).

Cause of Obesity

In order to study obesity satisfactorily, it was necessary to devise methods for the measurement of total heat production and of water exchange.

After an accurate record of the inflow and outflow of energy, organic solids and water had been obtained, it was found that the actual body weight always corresponded with that required by the conditions.

There is no specific metabolic abnormality in obesity. All obesity is "simple obesity." The increase in weight merely represents an inflow of energy greater than the outflow.

Failure of the primitive instinct to adjust the inflow of energy to the bodily needs is always the immediate cause of both leanness and obesity.—L. H. Newburgh, M.D., *J. A. M. A.*, Dec. 5, 1931.

Electrocoagulation and Irradiation in Cancer of Lip

1. Cancer of the lip usually follows chronic irritation (tobacco), traumatism or "fever blister."

2. One should think of cancer when any sore on the lip does not show a tendency to heal within two weeks.

3. Local destruction in the early cases without palpable lymph nodes and followed by high voltage roentgen treatment of the lymphatics has given 99 per cent of recoveries.

4. There has been a recovery of 95.5 per cent of all primary cases, even when there were palpable lymph nodes, but only 71 per cent of recoveries in the recurrent cases.

5. Of all typs of cases (179) that were treated more than five years ago, 85.5 per cent have been cured. This includes the recurrent and metastatic cases.—G. E. Pfahler, M.D., and J. H. Vastine, M.D., *J. A. M. A*, Jan. 2, 1932.

Blood-Sugar in Psychoses

The studies of sugar tolerance in psychotic subjects published at p. 731 of our present issue should be of great interest to psychiatrists, because they throw light on a perplexing series of observations. The whole story of recent research into the bodily symptomatology of mental disorders is well illustrated by the investigations of carbohydrate metabolism recorded during the past few years. Not only metabolic abnormalities but disturbances of the endocrine organs and of the vegetative nervous system have been reported with a frequency that implies that they have some pathological significance, but also with such inconstancy that attempts to build them into any systematic pathology appear to be hopeless. Such observations as those of Dr. McCowan and Mr. Quastel, and those on respiratory and acid-base disturbances lately made by other workers, give these findings a new significance. In studying the psychoses, to look for static signs of bodily disorder such as we are accustomed to find in the diseases of general medicine, is probably to look in vain. We cannot hope to obtain reactions equivalent to the Wassermann or the agglutination tests as permanent distinguishing features of forms of mental disease. If such static differences are present they are probably too minute to be demonstrated by our methods. It is not to the static but to the dynamic aspect of the disorder that research must be addressed. Put the psychotic organism to some stress—whether it be metabolic or emotional or stimulation by drugs, inhalation of carbon dioxide or by hormones—and the response will usually be found abnormal. In a collection of any observations the fortuitous occurrence of some conditions of stress inevitably gives rise to the abnormal conditions which prove so puzzling when they are scattered among a series of apparently normal measurements.

Dr. McCowan and Mr. Quastel have examined the relation of the blood-sugar curve to the emotional state and to the bodily concomitant of emotion evidenced by the so-called psychogalvanic reaction. They find a close correspondence between the results obtained by the two methods in so far as emotional states are concerned. By both types of reaction a needful check is afforded on the reality of a state of emotional stress. Their work seems to confirm the observation that the external manifestations of emotion cannot always be taken at their face value, especially in the hysterical mode of reaction. From their results it appears that the abnormalities of the blood-sugar curve found so often in manic-depressive psychoses are in the main a bodily manifestation of emotional stress, and that the variations may afford valuable prognostic information. The expression of these abnormalities in terms of a hyperglycæmic index may arouse some antagonism, for it must not be forgotten that the figures expressing ratio which they characterize by this name do not bear a simple relation to the degree of retardation, and cannot be legitimately used for simple comparison. There should, however, be little difficulty in constructing a mathematical expression of the varying delay in reaching a normal blood-sugar level.

The significance of the disorders of carbohydrate metabolism in the psychoses has yet to be fully explained; but meanwhile Dr. McCowan and Mr. Quastel have given a new orientation to part of the problem, and their results, if confirmed, will have much practical importance.—*Lancet.*

Rheumatic States and their Treatment

G. Zacharial gives the following classification of the conditions which may be truly termed "rheumatic," excluding cardiac complications: (1) Inflammatory conditions of muscles, including "Myalgia." (2) Rheumatic affection of nerves, especially the neuralgias, and sciatica. (3) Acute rheumatic joint lesions. (4) Chronic diseases of joints, which comprise chronic secondary infective polyarthritis, chronic primary arthritis, endocrine polyarthritis and arthritis deformans. For all these conditions he contends that the primary and essential feature of the treatment should be hot brine baths, preferably sulphurous, at a temperature of 103° F. The chemical dissociation of the salts which occurs allows the free ions to come into contact with the skin and penetrate it. After the baths it is essential that the affected parts should be covered with anti-phlogistine, and on the days when baths are not given the joints must be rested and well supported. There is a definite lowering of blood sugar after the baths, and the blood pressure also falls in consequence of an excretion of histamine bodies by the skin. Precautions must therefore be taken against collapse. As accessory measures large quantities of a sulphurous mineral water are given the patient to drink daily, and intravenous injections of sodium salicylate or trypaflairne may be tried. Zacharial publishes his results with cases treated in this way. Of the many statistics given the most interesting are those of 124 cases of chronic infective polyarthritis, 79 per cent. of which were cured.—(*Medizinische Welt*, September 26, 1931, 1396).

The Surgical Revolution

Surgeons of long experience, when they contemplate the methods which were in vogue during the early years of their career, cannot fail to be impressed with the complete change in the outook for many patients who must of necessity submit to an operation. Prostatectomy was at one time an extremely hazardous procedure; cholecystectomy was a dangerous undertaking, gastrectomy exacted a heavy toll; whilst thyroidectomy for exophthalmic goitre was so full of risk that it practically had no place in surgery. With respect to all these operations the prognosis has entirely altered, and it is instructive to ponder the factors which have brought about such astonishing advances. Refinement in technique has no doubt played its part, but modern surgeons would hardly claim to be better craftsmen than such masters as Billroth, Doyen, or Horsley. It is likely that the greatest factor is the change in our mental attitude towards operation—notably a realization that mechanical factors do not always play a major part, and often a very small part, in the restoration of the patient to health. Anatomy is as essential as ever, but physiology and the reaction of vital processes to altered mechanical relations have become recognized as of supreme import. Gastro-jejunostomy, for example, is more than a drainage operation, and the retention of urine due to an enlarged prostate has far more momentous effects upon kidney function than the mere mechanical distension of the renal pelvis. The study of the alteration of function of vital organs, the demonstration of the great reserve strength they possess, and the development of means of restoring their activity have placed in the surgeon's hands precautionary measures of immeasurable value. There has grown up a system of treatment before and after operation which is based upon solid foundations.

The extent to which modern surgical practice has been influenced by the development of our knowledge of physiology and pathology is made clear in the comprehensive series of articles by Dr. R. A. Cutting on the principles of pre-operative and post-operative treatment which have been appearing during 1931 in the *American Journal of Surgery*. The format and double pagination of these articles, of which the last was published in the December issue of the journal, show that they are designed to form a book, and the volume will be a welcome addition to surgical literature. The last section of the work contains chapters on extensive superficial burns, on acute traumatic cranio-cerebral injuries, and on intestinal obstruction. In connection with severe burns emphasis is laid on need for treatment of shock by morphine in large dosage, by the maintenance of heat, and by the promotion of quiet and rest. The local trauma is relatively unimportant, as far as immediate treatment is concerned, since toxic absorption does not occur for several hours. For extensive superficial burns tannic acid is recommended to the exclusion of any other local application. Its advantages in preventing the development of toxæmia are stressed, but Dr. Cutting does not pretend that the coagulation of toxins can be relied on to make systemic treatment unnecessary. Blood transfusion, the administration of saline solution in large quantities (4000 to 5000 c.cm.), and of dextrose are called for in severe cases, supplemented perhaps by such radiation as can be provided from an electric light tent, the use of which is recommended on other grounds. In the treatment of head injuries, attention is drawn especially to the relative importance of injuries to the contents of the skull and the relative unimportance of skull fractures as such. The interpretation of symptoms on the basis of the pathological physiology is outlined, and the non-surgical treatment of increased intracranial pressure by dehydration and by lumbar puncture is discussed as well as the indications for a decompression operation. The chapter on ileus is rather disappointing, for Dr. Cutting can give but little new information on the prophylactic or curative treatment of this condition, or in the treatment of the toxæmia of ileus, which is still almost entirely symptomatic. But he does show how the patient's discomfort can be relieved, and makes a useful point in drawing attention to the futility of using epinephrin or ephedrine in conjunction with splanchnic or spinal analgesia for the relief of ileus, since these drugs overcome the effect of the analgesia. (Ochsner, A., Gage, I. M., and Cutting, R. A.: Jour. Amer. Med. Assoc., 1928, xc., 1847.)

No better instances of the advances in pre-operative and post-operative treatment could be given than the strides which have been made in the surgery of diabetes and the hypertrophied prostate which Dr. Cutting dealt with in a previous contribution to the series. Not many years ago the smallest surgical intervention in a diabetic was looked upon with horror and apprehension, for about 50 per cent. of the patients died. Now the mortality is less than 5 per cent. This has been brought about by: (1) standardising the diet of each particular patient; (2) giving an adequate dose of insulin; (3) encouraging the patient to take food almost up to the time of the operation, for starvation leads to ketosis; (4) giving a pre-operative dose of dextrose together with a sufficient amount of insulin; (5) using minimal amounts of anæsthetic, never chloroform, preferably nitrous oxide, and best of all a local anæsthetic; (6) giving of dextrose, after operation, all of which measures are the outcome of physiological experiment in animals and chemical investigations of the blood in man.

The patient with an enlarged prostate is always in the later decades of life, and the inevitable degenerations have occurred in his circulatory and other essential systems. Their effect has been increased by urinary retention, with the toxæmia it produces. The remarkable reserve power which the kidneys are known to possess may be all but used up before the patient is aware that anything is amiss, but the degree of danger can be estimated by means of two routine tests; (1) the power of concentrating urea in the urine, and (2) the level of urea in the blood. So far as the kidneys are concerned it is now known that if the pressure against which they have to secrete is gradually lowered, latent powers of recovery are allowed play, and renal function will return to normal or nearly normal level, often with surprising speed. This discovery formed the basis for the two-stage operation which has saved innumerable lives. The performance of a preliminary operation to gain this end, however, is now regarded as unnecessary by an increasing number of surgeons, for it has been proved that catheter drainage is as effective as a suprapubic opening in more than three-quarters of the cases. The problem of the damaged kidney has thus been largely solved. It is not so with some of the other disturbances, which may be present in patients with prostatic enlargement. Every effort should be made to estimate the condition of the cardiac muscle; for this, unfortunately, no very reliable test is as yet available. A hæmoglobin estimation should be carried out. The chronic interstitial nephritis from which all these patients suffer causes an anæmia which is the more serious inasmuch as the amount of hæmorrhage during the operation, and subsequently, cannot be foretold or certainly controlled. Enough has been said to show that slowly yet surely a revolution has been taking place in surgical outlook, surgical treatment, and surgical prognosis. This is true of every province of surgery. The cruel withholding of fluids after laparotomy, the painful, unnecessary, and harmful purging both before and after operation, the unkindly restraint, are things of the past. The sufferer from an abdominal complaint necessitating a surgical operation may well be thankful he was not born 50 years before.—*The Lancet*, Jan. 16, 1932.

Experimental Production of Scarlet Fever

T. Toyoda, Y. Futagi, and M. Okamoto claim to have produced scarlet fever by throat inoculation with pure cultures of hæmolytic streptococci. Two strains were used, both isolated from the throats of scarlet fever patients; at the time of the inoculation they were in the third and fourth generation cultures respectively. The organisms were grown for twenty hours on an agar slope and in dextrose broth; a suspension was made; a sterile cotton swab was dipped in the suspension, and then rubbed over the throat. Three boys, apparently between the ages of 3 and 7 years, were used as volunteers; they were all Dick-positives. The time of the experiment was early winter. There had been no contact with scarlet fever for a long time. The three subjects reacted positively; the temperature rose on the second or third day after inoculation, and a rash came out on the third or fourth day, persisting for two or three days. The throat was hyperæmic and the tonsils slightly enlarged; in two of the subject desquamation subsequently occurred. In each case the Schultz-Charlton reaction was positive, and after the attack the patient's serum became capable of producing a positive Schultz-Charlton reaction, though before inoculation the serum had been negative. Five subjects inoculated in the summer with an old strain of hæmolytic streptococcus, of comparatively low virulence to mice, failed to react. Moreover, children inoculated, apparently during the winter, with filtrates of freshly isolated strains, likewise failed to react. The authors conclude that scarlet fever is caused by the hæmolytic streptococcus itself, and not by any filterable body atached to it.—*J. Infect. Dis.*, April, 1931, p. 350.

Digestive Anomalies and Neuroses

1. According to current notions, the symptoms of gastro-intestinal neuroses are attributed entirely to disturbances in the autonomic nervous control of digestion.

2. Stress is laid on the *absence of an acquired lesion* in the end organs of digestion.

3. The possible *coexistence of a congenital digestive anomaly* and its possible rôle in symptom production is generally overlooked.

4. According to the evidence here presented the neurosis furnishes the underlying functional instability—the break in compensation—and the anomaly, when present, expresses the actual digestive symptomatology of the clinical picture.—*John L. Kantor, M.D., in N. Y. State J. of Med.*, June 15, 1931.